

Municipal Journal

And Engineer

VOLUME XXVII.

NEW YORK, OCTOBER 20, 1909.

No. 16.

SYSTEM OF ESTABLISHING STREET GRADES

Proposed for New York City—Center Line, Curb Line and Building Line "Platforms" Prominent
Feature—Light Grades, Steep Grades, Acute and Obtuse Angles—Sidewalks and Gutters

PROBABLY the most common duty of all City Engineers, especially those in small cities and villages, is the fixing of street lines and grades. The actual laying out of these, setting the stakes, etc., is extremely simple in most cases; but the office work involved in determining the grades, especially those at street intersections, frequently present great difficulties. Mr. Arthur S. Tuttle, engineer in charge of the Division of Public Improvements of New York City, in a report to the Board of Estimate and Apportionment, just published, describes in detail a system of street grades and intersections which is intended to be of general applicability. This is so thoroughly worked out and seems to meet so successfully most of the difficulties encountered by City Engineers in this kind of work, that we publish it herewith in full.

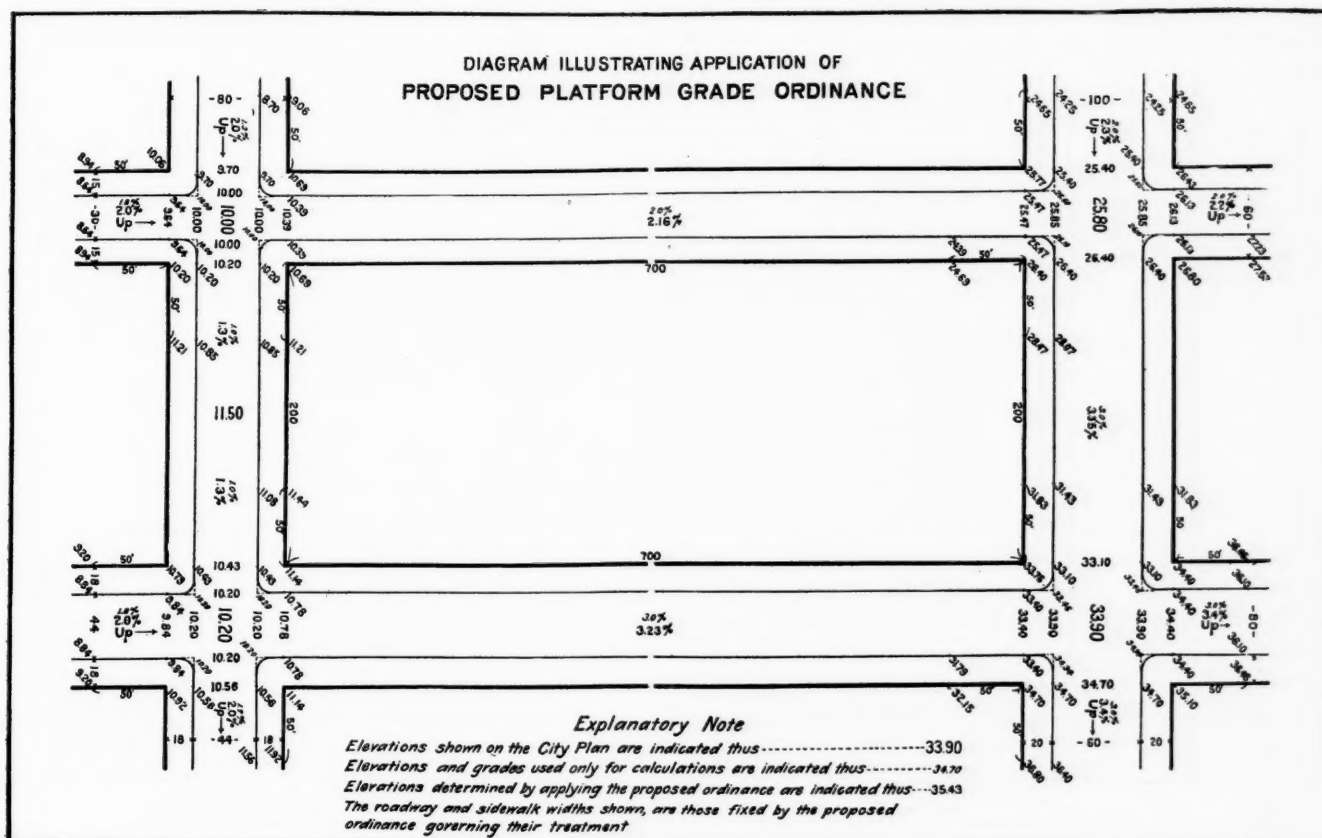
1. *Definition of Platforms*—The Center Line Platform shall be deemed to be the point of intersection of the center lines, except for cases where the center lines do not meet at a com-

mon point when it shall be deemed to be the area included within the center lines at their intersections.

The Curb Line Platform shall be deemed to comprise the area included within the extensions of the curb lines of each street to the center line of the intersected street.

The Building Line Platform for rectangular intersections shall be deemed to include the area bounded by the prolongations of the building lines of both streets across the intersection, and in the case of other than right-angled intersections it shall comprise the area within the street lines bounded by lines at right angles to the center lines and passing through acute-angled corners, or the corners giving the greatest platform area; where the building line corner is turned with a curve the corners shall be deemed to be the points of tangency.

2. *Definition of Elevations Fixing Grade*.—Unless otherwise indicated on the map the elevation shown at a street intersection shall be deemed to be that fixed for the point of inter-



section of the center lines of both streets affected, or for the Center Line Platform.

3. *Treatment of Center Line Platform*—The Center Line Platform, when it comprises an appreciable area and unless otherwise shown on the map, shall have a uniform elevation at its boundaries, and in determining the elevations for the other platforms herein described, the center line platform referred to as a basis of calculation shall be deemed to be the nearest point on the center line of each street at the boundary of the said platform.

4. *Treatment of Platform for Streets Having a Light Grade*—If the grade of each of the intersecting streets is 3 per cent, or less, as determined by calculating the rate between the established elevations, the elevation of the center lines of both streets within the limits of the curb platform and that of the points of intersection of the curb tangents shall be the same as that fixed for the Center Line Platform. Provided, however, that the difference in the elevation of points on the center line of each street at right angles to the center line opposite any rectangular or acute-angled building line corner, shall not require a greater transverse sidewalk slope than that fixed at the maximum in paragraph 7, in which latter event the building line platform shall be used and the grades of that portion of the streets adjoining the said corners shall be flattened between the boundaries of the building line and center line platforms as provided in Paragraph 5.

5. *Treatment of Platform for Streets Having a Steep Grade or Meeting at an Acute Intersection*—If the grade of any portion or portions of intersecting streets adjoining a building line corner is over 3 per cent as calculated between the established elevations, or if a further flattening of the platform grade is required for the intersections described in Paragraph 4, the grades of the said portion or portions of each street shall be reduced between the boundaries of the building line platform and the center line platform as follows:

If the streets are of the same width the grade of each as originally determined shall be reduced one-half. In case the streets have different widths, the grade of the wider street shall be reduced one-third and that of the narrower street two-

thirds between the above limits. Provided, that in no case shall the maximum platform and sidewalk slopes, fixed in Paragraphs 6 and 7 be exceeded. Any excess in grade over that allowed in Paragraph 7 shall be removed by further flattening as prescribed in Paragraph 8.

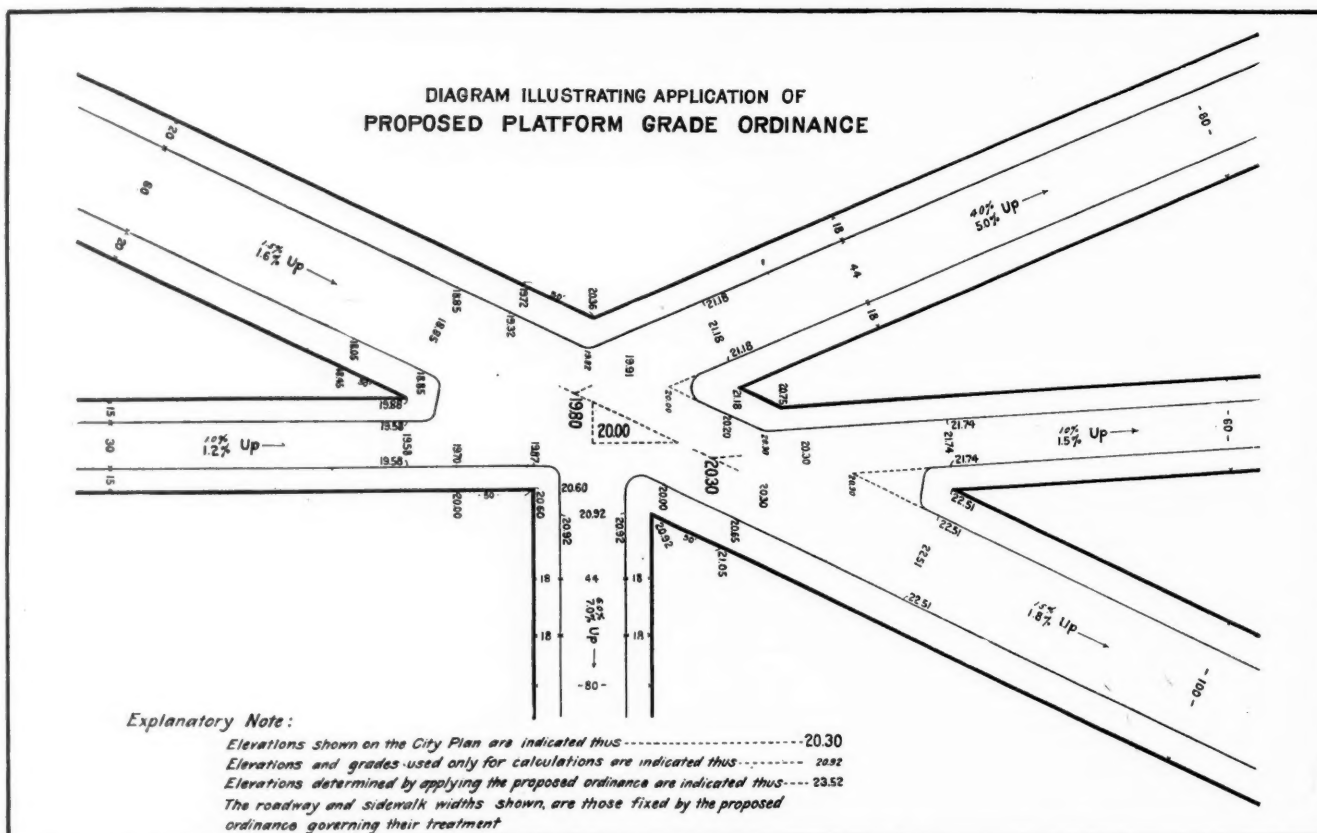
The elevations fixed at the point of intersection of the curb tangents shall be determined from the grade of the wider street, or from the grade of the flatter street if they are of equal width, and the elevations at the intersections of the center line of each of the narrower or steeper streets with the curb lines of the intersected street shall be the mean of the elevations at the intersection of the adjacent curb tangents, except that if the direction of the slope within the block would be reversed between the curb line and building line platforms, the elevation of the center line between the latter limits shall be the same as that fixed at the boundary of the building line platform.

The grades of the center line of the wider street, or of the flatter street if they are of equal width, shall be uniform between the exterior boundaries of the building line platform and the center line platform, except that the maximum platform slopes hereinafter fixed shall not be exceeded. The grades of the center line of the narrower street, or of the steeper street if they are of equal widths, shall be uniform between the elevations fixed at the exterior boundaries of the building line platform and those fixed at the boundaries of the curb line platform, and also between the latter point and the center line platform.

6. *Maximum Platform Grades*—The maximum allowable grade along the center line between the exterior boundaries of the building line platform and the curb line platform shall be at the rate of 6 per cent, and the maximum allowable slope along the center lines between the exterior boundaries of the curb and center line platforms shall be at the rate of 4 per cent.

7. *Transverse Sidewalk Grades*—Whenever practicable, the sidewalk shall slope upwards, in a direction at right angles to the curb, towards the building line at the rate of 2 per cent.

The elevation of the sidewalk at the building line corner



METHOD OF ESTABLISHING GRADES AT ACUTE INTERSECTIONS

Triangular center line platform shown. Also methods of treating curbs at acute and obtuse angled corners, as described on page 560

shall be determined by applying this rate to the elevation of the higher curb or to that of its prolongation, at a point immediately opposite the corner, unless the resulting grade on the lower side exceeds 6 per cent, in which case the sidewalk shall be level on the higher side and a greater transverse sidewalk slope up to the maximum shall be used on the lower side.

The maximum slope shall be 10 per cent, except that for all cases covered by Paragraph 4 it shall not exceed 6 per cent, and in no case shall the sidewalk at the building line be lower than that of a point immediately opposite it on the curb.

If the transverse sidewalk slope at the building line corner is more or less than 2 per cent it shall be made to agree with the latter rate at a point distant 50 feet from the building line corner.

8. Stepping Sidewalk and Special Flattening of Platform Grades for Extreme Cases of Steep Grades or Acute Intersections—If the difference in elevation tentatively fixed for points on the center lines of intersecting streets opposite any building line corner, after applying the minimum and up to the maximum transverse sidewalk slope on the higher and lower sides respectively, exceeds the maximum hereinbefore described, the elevation of each street at the boundary of the building line platform shall be adjusted to remove the excess, the adjustment of each of the said elevations being directly proportional to the grade of each as originally flattened, and as follows:

For all intersections where the interior angle is less than 30° , and for other intersections where the difference in calculated elevation of the sidewalk at the building line corner, as determined for each of the streets independently from the elevations tentatively fixed under the provisions of Paragraph 5, is one foot or less, the street grades shall be flattened across the building line platform as required to remove this excess after assigning the maximum transverse sidewalk slope on the lower side with a level grade for the walk at the higher elevation.

If the difference in calculated elevation of the walks at the building line corner when the interior angle is 30° or greater, is more than one foot, a vertical step 12 inches high shall be

placed in the sidewalk at the building line corner, and the platform grades shall be flattened as required to remove the excess of the difference over 12 inches. This step shall extend from the building line corner to the center of the curve from which the curb corner is turned where it shall be blended with the sidewalk grades, except that whenever necessary the length of the step shall be shortened sufficiently to provide a minimum clearance of 10 feet between it and the curb. The maximum transverse slope shall be used for the sidewalk on the lower side opposite the step, and on the upper side the sidewalk grade shall be fixed by the elevation of the curb line and that of the top of the step.

This step shall be protected by a suitable fence not less than 3 feet 6 inches high.

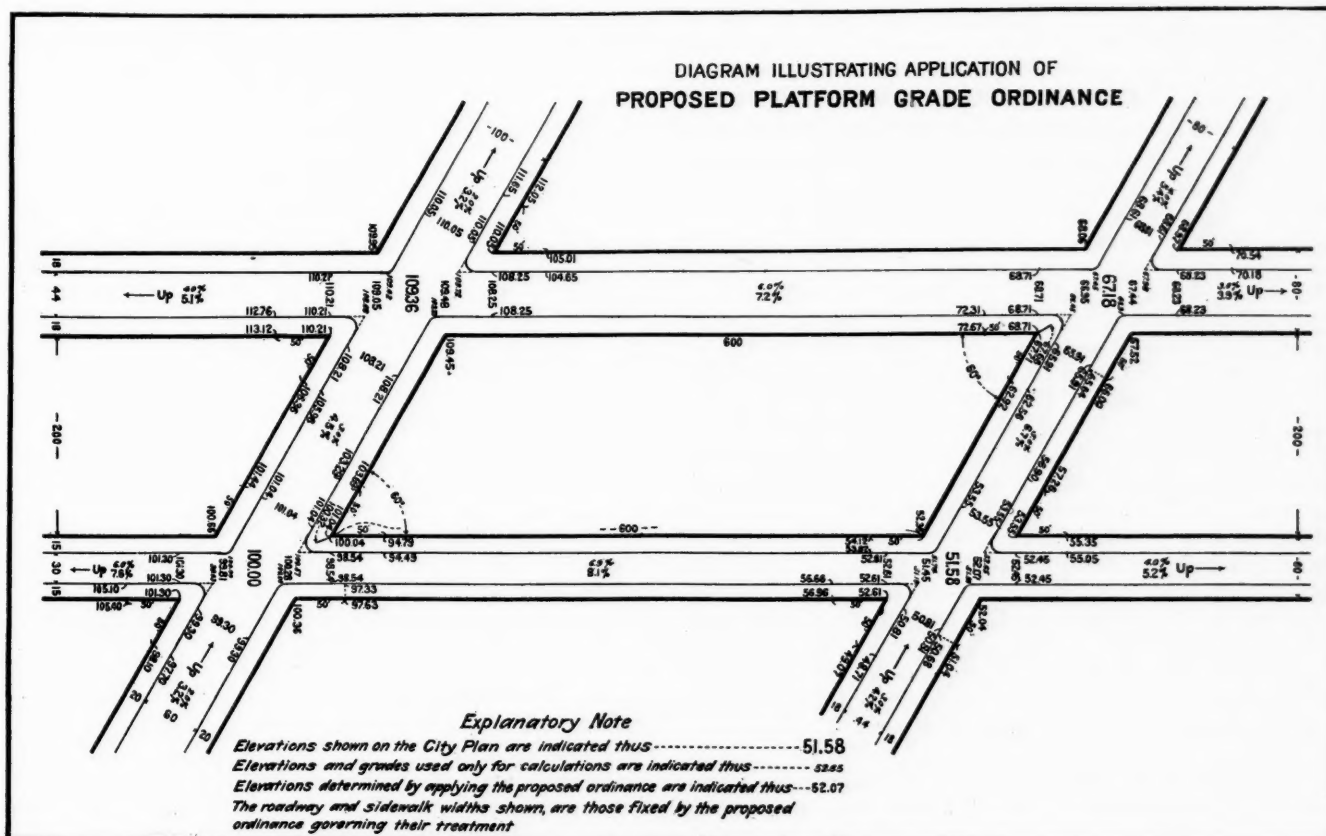
9. Curb Grades at Corners—The curbs and the center line at the boundary of the building line platform shall be at the same elevation.

The curve formed in each curb at all right-angled and obtuse-angled corners shall be graded uniformly between the elevations determined at the points of tangency, the latter being fixed from the elevations computed at the point of intersection of the curb tangents and at the building line platform.

The curve formed in each curb at all acute-angled corners, and the adjoining tangents within the limits of the building line platform, shall follow a uniform grade between the elevations determined for each of the said tangents at the boundaries of the said platform.

10. Grades Between Platforms—The actual grade of the center line of a street between platform intersections or between a platform and an intermediate established elevation shall be that determined by the elevations fixed for the center line at and between the outer boundaries of the platforms used; the grade of the curbs and of the center line shall coincide between the building line platforms.

11. Gutters—The depth of gutter shall not be less than 3 inches nor more than 10 inches, and where not otherwise fixed by this ordinance or by conditions requiring special treatment it shall be considered as $1\frac{1}{4}$ per cent of the roadway width.



FILING AND INDEXING SYSTEMS

Employed in the Engineering Departments of Brookline, Mass., and Salt Lake City — Filing and Card-Indexing Drawings and Note Books

THE importance of a system of filing and indexing the various maps, note books and other records of a City Engineer's office has been referred to frequently in these pages, and the methods of some offices described. Two papers have recently been read, one before the Boston Society of Civil Engineers and the other before the Utah Society of Engineers, describing the systems in use at Brookline, Mass., and at Salt Lake City, Utah; the former by Mr. Henry A. Varney, Assistant City Engineer, the latter by Mr. O. H. Skidmore, Electrical Engineer of the city. These papers are both commendably concise and are given in full below.

ENGINEERING DEPARTMENT OF BROOKLINE

The system of indexing now in use in the Engineering Department of the town of Brookline was devised in the year 1902, after considerable study of the methods used in several of the larger municipal engineering offices in New England.

Everything is indexed under the name of the nearest street and also cross-indexed under every other street referred to in any way. Plans, notes and documents are indexed separately, and at present there is a fourth index for "Land Plans," which however, can be combined with the main plan index at any time.

Standard sized flat plans are always used when feasible and are filed in shallow drawers and numbered consecutively in addition to the designations explained below. Not more than 50 plans are ever filed in one drawer. When large plans cannot be avoided, they are rolled and filed in pigeon-holes or plan tubes.

"Land Plans" are copies of plans recorded in the Norfolk Registry of Deeds relating to property in Brookline. They are made on tracing cloth and are always filed flat.

Drawers are lettered and numbered, the letter referring to the bank or section of drawers, and the number to the position of the drawer in the section. It might possibly be better to number the drawers consecutively and so do away with the section letter, as plans are sometimes put away in the wrong section by mistake and so lost for an indefinite period; and again, it makes one more designation to remember when looking for a plan.

White cards of medium weight are used in indexing, about 3 inches by 5 inches in size, with tabs to designate the different classes of work. No colored cards are used except for guides and sub-guides, the former being buff and the latter blue. The tabs are of such size as to allow space for 12 classifications. For the plan and note index 10 are used at present, as follows: Map, street, sewer, drain, park, building, bridge, land plan, water and miscellaneous. By the use of these tabs it is possible to locate the required card very easily, thus saving time and preventing the index from becoming unwieldy with growth.

On plan index cards the street name is written across the top, then below this at the left is a space for the filing numbers, and at the right, room for a description of the plan, and still lower down are ruled places for the date, scale, engineer and material. Only one reference can be put on these cards.

For the land plan index the street name is placed in the upper left-hand corner, and the side of the street on which the property is located, at the right. The next line below is for the names of the streets between which the property shown is located, and the lower part of the card is divided into vertical columns for the owner's name, engineer, scale, date and place of filing.

In connection with the plan index a "drawer" book and "accession" book are used.

The drawer book is for the purpose of showing what spaces are available in drawer or pigeon-holes for plans about to be filed. Two pages are reserved for a drawer and are headed

with the section and drawer number. Down the left side of each page are the numbers 1 to 50, with an additional column for the accession number, and to the right of that column a space for a brief title.

The accession book gives all the information relating to a plan and enables it to be located if the index card is misplaced or lost. In this book is recorded the full title, scale, date, size and material of each plan under an individual or "accession" number; also the initials of the assistant by whom the survey was made and plotted, the purpose for which it was made, and where and under what streets it was filed. Every plan made by the department is given an accession number whether it is to remain in the office or is for record.

In indexing notes they are arranged under subjects in addition to the tab classification. Calculations, estimates, levels, profiles and surveys are some of the "subjects," about twenty being used. This classification is written in the upper left-hand corner of the card, the opposite side being reserved for the street name. Below are vertical columns for the date, book and page and a brief description. The vertical ruling makes it possible to put several references relating to the same subject and street on a card, thereby reducing the number of cards in the index.

The loose-leaf system has been adopted for street line and grade work and for sewer construction, and this has cut down the growth of the note index, as the loose leaves are filed in the same manner as cards behind the proper street name and do not have to be indexed. If the loose-leaf idea was applied to all classes of notes, calculations, estimates, etc., it would eliminate the necessity of a note index except, of course, for the old books.

The document index is for all correspondence, reports, estimates, bids, descriptions, specifications, etc. Everything is indexed under the name of the street to which it refers, as in the plan and note index, and, in addition, the correspondence is indexed under the person's name from whom the letter is received or to whom it is written. These latter cards are filed in a separate drawer. The tab-card system is used here also, the tabs referring to the above-mentioned subjects. The cards are further classified by the use of sub-guides cut in "sevenths" and labeled "street," "sewer," "drain," "park," "water," "bridge" and "miscellaneous." If the document to be filed was a description of a street location it would be indexed on a "description" tab card and placed in the index behind the sub-guide marked "street." A space is reserved at the top of the card for the street name, a vertical column ruled down the left-hand end for the date, and a similar one down the opposite end for the folder and document number. This leaves a generous space between for a description of the document.

The documents are filed by the vertical system, in legal size folders numbered consecutively. No more than 50 sheets are allowed in a folder, and each paper is stamped with the number of the folder as well as an individual number. This enables one to locate any document exactly, and if any are missing there is no chance for speculation as to whether or not there ever was such a document filed there.

The number of plans in the department has more than doubled since the index was started, but any required plan is as quickly and easily found as at first; in fact, the system throughout has proven very satisfactory and capable of indefinite expansion.

SALT LAKE CITY ENGINEERING DEPARTMENT

To properly understand this system it will be necessary to give a slight outline of the organization of the department, which consists of the following:

The City Engineer as the chief, and a Principal Assistant Engineer; then four division assistants, having charge of four separate divisions, namely:

1. The street division, taking care of paving, sidewalk construction and grades for same.
2. The sewer division; the construction, operation and maintenance of sewers.
3. The water works division; the construction of water mains and superintendence of the city's canals and waterways.

4. The electrical division locates poles and supervises the work of the various public-service corporations operating under franchises in the city in the laying of their underground conduits and stringing of wires, and also looks after such electrical equipment as is controlled by this department.

Besides these divisions, there is a drafting-room, in charge of a chief draftsman; a computing-room, in charge of a chief computer, and the public office, in charge of the chief clerk, who deals with the public and has the general supervision of the clerical force. The filing department is carried on in a commodious vault by a head filing clerk and assistant. The department operates a cement testing laboratory, in which samples of all cement used in municipal contracts are tested, and no small amount of custom work is handled; and also a blue-print-room is maintained, in which prints of all the drawings of the department are made.

Early in the year 1906 Mr. Kelsey found that, with the beginning of the era of improvement, and the large amount of records already in the vault of the department, a new, up-to-date system of indexing and filing was needed. The office became an office of record, and a precise system of keeping these records was an urgent need. After careful study and few experiments, the present separate "leaf" system was matured.

Beginning in the field, with the completion of the day's work, such notes as are taken are the next morning checked in the computing-room, given their account numbers and sent to the vault for filing. With the mention of account number the system has its beginning. The department has issued for the employees a small paper volume containing the different account numbers and the account they represent.

Under the head of Contingent Fund are the numbers 1 to 20; these include expense, resurvey, private surveys, subdivisions and additions, and the other departments which this office assists with engineering.

Water Supply, numbers from 21 to 30, includes the accounts of the water resources of the city with the irrigation, maintenance and construction.

Water Works, numbers from 31 to 35, includes the supply mains, water works department construction and maintenance and water main extensions.

Streets and Sidewalks, number 36 to 45, and include all the extensions pertaining to the improvement of the streets.

Sewers and Drains number 46 to 50, and include the drainage and sewer departments, both construction and maintenance, and the sewer extensions.

From this it can be seen that each principal account has its own account number. Now, with the principal account number each one has its sub-accounts, and in order to clearly show such, let us take the water works account.

Covering water works proper, the account number is 31 to 31-Z, taking in the alphabet; supply mains, 32; new water supply mains, 32-B; city creek pipe line, 32-J, and so on to 32-Z. Water works department (maintenance) is 33, and sub-accounts contain grades and lines for hydrants and pipes, city maps, electrical survey of water pipe system, etc., to 33-Z; water works department (construction) is 34, with sub-accounts under plans, estimates, etc.

Water main extensions have the number 35, with the particular extension number as the sub-head. Water main extension 181 would be accounted for as 35-181. These accounts are carried through the bookkeeping and all parts of the office work.

When the City Council makes the appropriation for the department it is divided up among the various account numbers and their subdivisions, which amounts are placed to the credit of each account number, and expense connected with such work in material and time is charged out as work is done.

To simplify matters, the principally used accounts have special colors designated to them, and are used in the field notes and folders for letter and estimate filing. Water main extension notes and all folders pertaining to water works are light blue. Paving extensions and their folders are pink. Sidewalk extensions and their folders are coffee color. Sewer extensions and sewer department work, light green. Notes and folders per-

taining to the electrical department are light gray. Private surveys are corn color. Street profiles are tuscan.

When the notes for filing reach the vault, the filing clerk notes the account number placed on the notes by the checker and places them in the cabinet drawers designated by such numbers. The drawers have subdivisions in them corresponding to the subdivisions of the accounts before mentioned, and are easily identified.

The forms of field notes are divided into as many as are necessary to complete any class of work, being single sheets folded 16mo size. The first page has a blank for account number, extension or permit number, total of particular surveys, remarks and names of field party and date. The two inside pages are regularly ruled for either level or transit notes. The last page is left blank. Where special work is necessary, as in the measurement and location of the hydrants and valves, there is a specially ruled form with proper headings to fit such work. A copy of the inspector's notes is also made up on these special leaves, and is ruled accordingly. With the completion of an extension or some special work, these field and inspector's notes are bound in book form and preserved for record.

Following this same system of record, all the correspondence of the department pertaining to each account is similarly filed in folders, cardboard front and back, and bound to it with fasteners. Carbon copies of all outgoing correspondence are also filed, and a complete record of the accounts can be had by referring to these folders, which bear the number of their account.

All computations are made in the computing department, and here a great number of ruled forms are used, special care being taken to have all forms of either of the two sizes for filing, standard letter size or the 16mo size of the field forms. In this department all the records and computation of the water supply are made, and these require quite a number of forms for stream measurement, and those necessary for the Utah Lake pumping plant, the City Engineer being the representative of Salt Lake City in the Associated Canal Companies. In making up the partial and final estimates the computers use small forms (note size) for their computations and estimates, and these, after being checked, go to the stenographer. All the estimates are rechecked by the assistant engineers and then await approval. Located in the computing department there is also a Challenge-Gordon press and complete outfit. This is used for lettering tracings and the indexing systems.

The most complex problem that confronted the office was to find a simple, yet efficient, system to file the tracings and drawings. There are at the present time 4,125 tracings and 1,058 drawings.

Five sections of steel cases were purchased, each having 10 drawers and one drop-door compartment. The drawers take any drawings up to 42 inches by 42 inches, and hold with ease an inch and a half of tracings laid flat. The drawings and blue prints are filed in wooden cases similarly constructed, and rolls, such as large maps and cross-sections that cannot be filed flat, are placed in the large lower spaces fitted in both wooden and steel cases with drop-door fronts. The fronts of the drawers are provided with card slides for the account number, and the drawings and tracings are filed according to the account number system previously mentioned. These tracings and drawings are indexed according to the same system, and, turning to the account number, one can readily find at a glance the drawing or tracing desired. To further facilitate finding drawings or tracings they are also cross-indexed by title and account number.

In connection with the department, and most valuable for record purposes, is a complete photographic equipment. As the work on any public improvement is susceptible to many lawsuits, just and unjust, photographs are taken during the various stages of the work. These progress photographs are undoubtedly the best witnesses the city can have. There are at present on file, indexed similarly to the other records, 1,873 negatives in two sizes—6 inches by 8 inches and 8 inches by 10 inches. These photographs have paid for themselves many times over by the winning of suits by the city through these mute witnesses.

Aside from the tracings and drawings are the plat books which have been made both of the blocks of the city and the entire sewer systems. The block plat books are made up of heavy drawing paper mounted on canvas, and bound with hinge binding so that the pages will always lie flat. All pages have numbers corresponding to the block number, and the plat of the book is first outlined on the page, showing all the monuments on the four streets bounding the block, together with the ties for the same. Then, as private surveys or resurveys of the city are made, all such are entered upon the outline drawings of the blocks. Separate books are made for each plat division of the city.

The sewer plat books, of which there are now 25, are made in the same manner as the block books, and have along the center of the page the plan of both sides of one block of a street, showing the monuments at the two intersecting streets at each end of the block and their pluses from the base line, at the section of the city in which they are. The sewer line is drawn in, showing the location by pluses of all Y's and manholes. At the top of the page is a profile of the sewer, showing the grade and rate, manholes and ground levels of the one side of the street, and at the bottom of the page is the profile of the opposite side of the street. These books are arranged in districts and numbered according to their respective numbers, carrying on the front page an index to the blocks which each page covers. In addition, there is a map of the city, showing all sewers, drawn in in colors and a number corresponding to the number of the book in which they are to be found.

All permits which are issued by the department, such as sewer connections, pole permits, house numbers, cement tests and the like, are typewritten on printed forms in duplicate, the original remaining in the office and the duplicate going to the applicant, who signs a printed receipt in duplicate, which is on the form of permit of both original and duplicate. After all records, such as these permits, note sheets, letters, calculations, estimates, and, in fact, all but drawings and tracings, become a year old, they are bound in permanent bindings for record. These bindings are lettered with the account numbers and sub-letters to which they belong, and are placed in glass-front cases. These bindings also carry the color of the class of work to which they belong, thus making the records in all the stages quickly recognizable and showing by their distinguishing color, number and letter to what part of their particular division they refer.

The system has been developed and elaborated during the past three years under the personal supervision of Mr. Louis C. Kelsey, the present City Engineer, to whom the credit is due for one of the best and most complete systems of records, if not the best, in the country.

INSULATING STEEL PIPES

ONE of the disadvantages found to be connected with the use of steel pipe for water conduits and other purposes is the danger from electrolysis, since, owing to the thinness of the shell, a small amount of pitting is a serious matter. An effort to overcome this has been made in the case of the two 30-inch steel water pipes which are to be laid under the Connecticut River on the line bringing the Little River supply to Springfield, Mass. In this case the lines will be of steel pipe for the entire length, except that at each end the pipe will be a length of wood-stave pipe, which will act as an insulator to prevent stray electric current from entering the section of pipe line between them. A gap of 3 feet is left in the steel pipe line where the wood joint is to go, on each side of which a casting is attached to the pipe, on the outside surface of which are cast three beads spaced about 5 inches apart. The wood staves, assembled so as to include these castings, are forced down onto them by eight welded hoops of 1 by 4-inch steel, which are tightened up sufficiently to cause the beads to sink into the staves and at the same time to bring the staves into close contact to prevent leakage between them. The staves are 2 inches thick at the ends and 4 inches at the middle.

SETTLING BASIN COSTS

Cost of Cleaning Influenced by Character of Sediment and Structural Details—Coagulants—Repumping—
Illustrations of Actual Costs

IN a paper discussing the general question of cost of clarifying water in settling basins, which was read by Mr. S. Bent Russell, of St. Louis, before the Central States Water Works Association, a number of data of costs were presented which are of considerable general interest.

With reference to the cost of cleaning sedimentation or settling basins, Mr. Russell says that this is dependent not only upon the quantity of water handled and the amount and character of sediment carried by it, but also upon the relation between the floor area and total capacity, the inclination of the floors and their smoothness, and other features of construction. "To keep this cost within proper limits we are justified in adding considerable to the first cost of the plant. In the years 1900 and 1901 the Compton Hill service reservoir at St. Louis was cleaned under the direction of the writer. About 27,000 cubic yards of mud were removed from one basin. Owing to the flatness and roughness of the floor and lack of proper facilities, this work cost about 7.5 cents per cubic yard.

"In that same year 233,126 cubic yards were removed from the settling basins at the Chain of Rocks for 1.017 cents per cubic yard, or less than one-seventh of the above cost. This difference was partly on account of the greater inclination and smoothness of the floor of these basins and better waste pipe connections." In the latter basins 100 gallons of water were required to wash out one cubic yard of mud.

"For the year ending April, 1906, the cost of coagulating (at St. Louis) was \$3.99 per million gallons, divided as follows: Lime, \$1.740; sulphate of iron, \$1.532; labor, \$0.628; power, \$0.086; repairs, \$0.010. These figures do not include pumping for coagulating plant nor fixed charges. Since that time a new coagulating plant has been built, in which modern elevating and conveying machinery, with automatic controlling devices, is used. It is designed to operate with a smaller force of men than the old plant. The contract price for the building, including most of the machinery, was \$89,500. If we take interest, depreciation and insurance at 10 per cent, and at 100,000,000 gallons per day, we would have 24.4 cents per million gallons treated."

In the Cincinnati plant in 1908, when about 44,000,000 gallons per day were being treated, about 1,000,000 gallons per day were drawn from the settling basins through the lime saturators and 1½ cubic feet per minute of filtered water was

Expenditures for Sedimentation

From records of Bissell's Point Basins, St. Louis Water Works

YEAR	PAY ROLL			Materials Repairing	Daily Consumption in million gals.	COST OF COAL PER MILLION GALLONS		
	Operating	Clean- ing	Repairs			High Service	Low Service	Total
1	2	3	4	5	6	7	8	9
1881..	\$2,588.00	\$1,405.48	\$245.00	.....	27.5	.....	.....	.....
1882..	2,400.00	2,875.00	1,259.57	.....	28.	.....	.....	.....
1883..	2,400.00	1,876.71	.....	.....	27.5	.....	.....	.....
1884..	2,417.50	2,034.00	341.60	.....	24.8	.....	.....	.....
1885..	2,400.00	3,276.00	185.56	.....	26.9	\$4,885	\$1,738	\$6,623
1886..	2,400.00	2,195.36	187.93	.....	30.5	4,600	1,889	6,489
1887..	2,448.56	2,137.50	26.17	.....	30.5	4,442	1,934	6,376
1888..	2,449.11	1,865.41	560.17	\$157.78	32.7	4,375	2,345	6,720
1889..	3,991.25	2,927.35	908.30	129.83	32.3	3,850	1,904	5,754
1890..	4,020.00	1,386.00	1,139.63	334.88	35.2	3,462	1,763	5,225
1891..	4,020.00	1,411.20	1,233.56	468.69	38.6	3,298	1,587	4,885
1892..	4,028.00	2,286.26	36.67	397.16	42.1	3,484	1,830	5,314
1893..	4,319.97	2,810.89	170.55	629.74	47.5	3,805	1,969	5,774
1894..	4,617.99	3,519.19	171.95	809.10	52.9	3,779	2,041	5,820
1895..	4,588.26	2,688.20	.....	.....	.....	.....	.....	.....
	\$49,088.64	\$34,694.55	\$6,466.66	2,927.18	477.0	\$3,998	\$1,900	\$5,898
	Totals					Averages		

In 1882 the first repairs of magnitude after installation were made. In 1889 leaks and breaks were repaired. In 1890 joints were repointed and coping dressed. Column 8 gives the cost of coal for pumping with a lift of about 50 feet from the river to the basins; Column 7 the cost of pumping the clear water into the city distribution system with a lift of about 200 feet.

used for slaking lime and $2\frac{1}{2}$ cubic feet per minute for dissolving sulphate of iron. All of this water had to be re-pumped, which was an item of cost in the treatment.

The matter of repumping or raising water more than once through some part of the lift also applies to intermittent-flow sedimentation basins. In those at Bissell's Point, St. Louis, the head lost on account of the operation of the basins on the intermittent flow or fill-and-draw system was about 14 feet, the total lift being 250 feet. Mr. Russell calculates that this double lift through the 14 feet added nearly 33 cents per million gallons to the cost of pumping, which could have been saved by the use of constant flow basins. It is to be noted, however, that with the use of intermittent flow basins an amount of storage is obtained equal practically to the capacity of the basins, which storage would not be available with constant flow.

The accompanying tables were presented by Mr. Russell and were briefly discussed by him in his paper.

Cost of Sedimentation at Bissell's Point Basins from 1881 to 1894 Inclusive

	Cost per Million Gallons Settled 2	Cost per Year in Per Cent of First Cost 3	Cost in Per Cent of Coal Bills Low Duty Plant 4*	Cost in Per Cent of Coal Bills, High Duty Plant 5†
Interest.....	\$2.82	\$5.	\$47.5	\$113.
Depreciation.....	.79	1.4	13.4	32.
Repairs.....	.054	.068	.92	2.17
Operating.....	.281	.34	4.72	11.25
Cleaning.....	.198	.23	3.35	7.99
Increased lift.....	.329	.585	5.6	5.6
Total.....	\$4.472	\$7.623	\$75.49	\$172.01

* Figures based on actual cost of coal used.

† Cost of coal taken at 42 per cent of the actual cost as the cost if the engines had been as economical of fuel as those now in use.

Cost of Reservoirs

CITY	Class (See Foot- note)	No. of Basins	Total Capac- ity in Million Gals.	Cost	Cost per Million Gal. Capac- ity	Remarks
Boston, Sudbury:						
No. 2*.....	I	1	530	\$71,472	\$135	
No. 4*.....	I	1	1,400	813,846	570	Soil stripped.
No. 6*.....	I	1	1,530	910,300	600	Soil stripped.
Cincinnati.....	I	2	330	1,276,000	3,865	Settling.
Harrisburg, Pa....	II	1	4	21,485	5,371	Settling.
Minneapolis, Minn..	II	2	93	442,328	4,750	Service.
St. Louis, C. H....	II	2	60	271,671	4,528	Service.
Cincinnati, O.....	II	3	22	206,300	9,170	Settling.
Cincinnati, O.....	II	1	19	136,500	6,970	Storage.
St. Louis, B. P....	III	4	65	578,437	8,900	Settling.
St. Louis, No. 1-6..	III	6	168	1,021,087	6,080	Settling.
St. Louis, No. 7-8..	III	2	80	523,609	6,545	Settling.
St. Louis, Baden...	III	1	50	250,066	3,126	Storage.
Coshocton, O.....	IV	1	0.320	4,310	13,470	Service.

* Not paved.

NOTE.—Class I refers to basins formed by draining a natural valley; Class II to earth embankment basins; Class III to masonry walled basins, and Class IV to covered reservoirs.

PITTSBURG CIVIC COMMISSION

SOME weeks ago there was published what was known as the "Pittsburg Survey," which was an arraignment of civic and industrial conditions in that city resulting from the investigation of such conditions by the Russell Sage Foundation. This report of conditions was published in abstract and commented upon by papers and magazines throughout the country and has quite widely advertised the discreditable condition of affairs in the Smoky City.

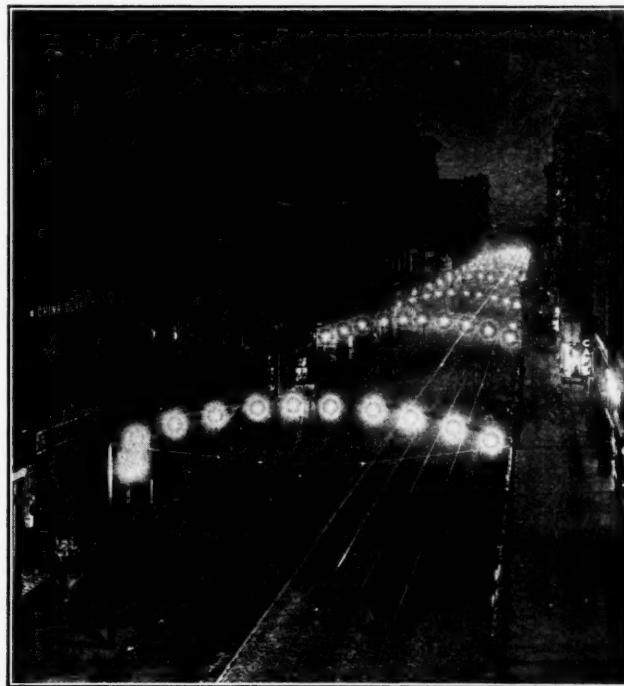
Public spirited citizens of Pittsburg have accepted this national criticism as a challenge to achieve as brilliantly in municipal affairs as in private undertakings. This feeling has embodied itself in the Pittsburg Civic Commission, which was appointed on Jan. 16 of this year by Mayor Guthrie. This commission has organized and started active work, one of its latest moves in this direction being the retaining of Bion J. Arnold, of Chicago; John R. Freeman, of Providence, and Frederick Law Olmsted, of Boston, to study the needs of the city, especially in the way of city planning, considered in its broadest sense; and to recommend what further action they believe

should be undertaken by the commission. The commission in organizing appointed 14 committees covering such important subjects as accounting, public health, schools, rapid transit, etc. These committees are studying the conditions there and in other cities, and on this basis and the advice of specialists, such as those just named, will formulate plans for necessary improvements. The endeavor throughout will be to secure co-operation of the city officials and to educate the citizens to an appreciation and support of the efforts of the commission. To more completely effect the latter, local organizations are now being formed in every ward of the city. This last feature seems to us to be somewhat novel in the thoroughness with which it is undertaken, but also to be one of the most important branches of the commission's work. In fact, if the public education could be completely brought about the other aims of the commission would almost be forced upon the city by public opinion.

ORNAMENTAL LIGHTING AT NORFOLK

GRANBY Street, in Norfolk, Va., has, since the first of September, been lighted for several blocks with arches of lights, as shown in the illustration. The lights are supported by flat steel arches, having a span of 40 feet and a rise of 4 feet, which are supported by iron street railway poles located 100 feet apart. The arches are made up of two 2x3 angles rolled to the proper radius and laced together into a 12-inch girder. A one-half-inch steel wire runs above the arch from top to top of supporting poles and assists in stiffening the arch against wind strains.

Ten General Electric, series, incandescent, center span suspension outfits are attached to a one-half inch steel cable run 12 inches above the top of the arch and supported by I-bolts fixed to the lacing. The lamps and reflectors are thus protected from any violent shock which the arch might receive and still the whole structure possesses the necessary element of rigidity. The lamps and reflectors alone hang below the arch and the whole has a very attractive appearance in the daytime as well as at night.



STREET LIGHTING ARCHES, NORFOLK, VA.

There are 27 arches between Main and Bute streets, each arch having 10 60-c.p., 75 watt, 66 ampere General Electric street series lamps with automatic contacts and radial wave reflectors.

The arches were made and erected by the Etna Iron Works, of Norfolk, and cost the city \$45 each. They were the design of Mr. R. S. Scott, illuminating engineer of the Norfolk and Portsmouth Traction Company.

TESTING AUTO FIRE ENGINES

IN many cities of the country where the subject of the adoption of automobile fire apparatus is being considered, the manufacturers of such apparatus have endeavored to demonstrate its superiority by tests of various kinds. Such comparisons should take into account at least three considerations: promptness of getting into service, efficiency in service, and cost of operation and maintenance, the last involving also the effective life of the apparatus. The last, of course, can be satisfactorily demonstrated only by actual service for a number of years, although an experienced mechanic and engineer can form a pretty good idea of the probable durability of a machine.

The test most easily made, and that which is most spectacular and effective with citizens generally, is that of the promptness of getting into action. In this class of tests the auto is quite apt to come out ahead, and this is probably one of the reasons for the rapid spread of the use of this class of fire apparatus. It is possible that its superiority will be shown in the other two classes of considerations also, but sufficient time has not yet elapsed to demonstrate this.

A typical test of speed was one which took place in Augusta, Ga., a few days ago, in which an auto chemical and an auto engine competed with a horse-drawn, coal-fired engine in the presence of a crowd of citizens said to have numbered thousands and of official visitors from Savannah, Atlanta and Macon, Ga., and Charleston, S. C. In this the auto engine, starting at the tap of the fire bell, ran a distance of 0.56 of a mile, ran off two lines of hose 400 feet each, and had two streams playing over a monument in the public square in 1 minute 43½ seconds. (Such minute accuracy in time must, we think, have been more apparent than real.) Following this was a race between the auto engine and the horse-drawn engine accompanied by a horse-drawn hose wagon. The auto engine had a stream playing over the monument in 1 minute and 49 seconds, or 31 seconds after reaching the fire hydrant. The horse-drawn engine was only a few seconds behind the auto in speed, but it required 7 minutes and 23 seconds for the engine to get up steam sufficient to throw the stream to its full height. The maximum heights reached by the streams from the two engines were practically the same.

This test would seem to indicate that there might be some advantages in using internal-combustion engines in place of coal-fired ones, even on horse-drawn engines, as much more time appeared to have been gained in the above test in getting up pressure than in getting to the fire. We believe, however, that under many conditions, and especially where heavy grades are encountered, speed in reaching the fire would also show in favor of the automobile apparatus.

SCIENTIFIC WATER DETECTOR

A SUBSTITUTE for the witch hazel stick used for locating subterranean water, and one based upon scientific principles, has been tested in France and Belgium, and is said by U. S. Consul-General Mason to have proved quite successful in certain kinds of ground, a chalky, calcareous formation being found most favorable for its use. Its general nature is indicated by its name, "acoustele," the general principle being the detecting by means of a sound magnifying apparatus or microphone of the sound of water as it moves under ground. The conditions which are most essential to its success seem to be the existence of subterranean veins or channels of water flowing with sufficient velocity to create a rumbling or gurgling sound by their flow or fall, and a surrounding geological formation of a resonant character capable of transmitting the sound thus created to the surface of the ground, where it is detected by the delicate auditory receptivity of the instrument.

It is seen that its use is extremely limited, and as such waters are seldom used, and not often of a desirable quality for municipal supplies, its value would seem to be confined to the obtaining of water for other than potable purposes. It would, of course, be absolutely useless in detecting the flow of water

through sands, since the noise made by a velocity through these of even five or ten feet per day (about 1/750 to 1/1500 of an inch per second) can hardly be conceived, let alone heard. That the instrument possesses claims to serious consideration, however, would appear to be indicated by the fact that it has been extensively experimented with by the Belgian Society of Geology, Palaeontology and Hydrology. The price of the instrument, which is manufactured in France, is \$18.35.

WHOLESOMENESS OF SOFTENED WATER

At the convention of the Central States Water Works Association a consideration of the desirability of softened water for potable purposes, with special reference to McKeesport, was presented by Dr. A. G. Sandblad, of that city. In discussing this, Mr. S. Bent Russell, of St. Louis, inquired whether at McKeesport they ever get an excess of caustic alkalinity or sodium carbonate in the water; and, if so, what effect this would have upon the health of the consumers.

Dr. Sandblad replied that at McKeesport they do not allow any excess of the chemicals used, the proportions of which he had already mentioned in his paper. The softening is carried on under the constant supervision of chemists and tests are made from hour to hour to control the chemicals used in softening.

Mr. Russell further asked whether in the event that there was evidence of causticity what remedy would be applied? Dr. Sandblad replied that the lime treatment would be cut down, or the soda treatment increased. Excess of lime is neutralized by soda, but that would be a poor economy from an operative standpoint, the better plan being to diminish the lime to meet the soda treatment. The small amount of causticity resulting would hardly have any effect unless in the extreme case of a reckless operator.

Pushing his question still further, Mr. Russell asked whether in the possible event of any excess of causticity it would do any harm to the health of the community, and the Doctor again repeated that it would do very little, if any, harm.

In reply to an inquiry as to whether softened water did not greatly lessen the use of soap and boiler compounds, one of the members stated that this was certainly the case in McKeesport, and he knew whereof he spoke, since he was a stockholder in a laundry there.

WATER MOTOR WASHING MACHINES

IN cities where water is sold on the basis of number and character of appliances rather than that of quantity of water used, the adoption of each new appliance or the starting of each new class of business calls for the establishing of a new rate therefor. Within the last few years the use of water-motors for running washing machines in private residences has become quite common in some localities, and the establishing of a rate for these is a matter of considerable interest because of the comparatively large amounts of water used by such machines. Mr. A. W. Inman, Superintendent of Water Works of Massillon, O., in order to obtain some information on this point attached a meter to such a contrivance and had it used in his own house, where the family consists of three children and two or three adults. He found that water was consumed by the motor at a rate equivalent to \$9 or \$10 a year at a 25-cent rate. It is very easy to permit the motor to run a much longer time than necessary, and consequently considerable waste of water may be expected with an appliance of this kind, and it, therefore, seems as though \$9 or \$10 were the lowest rate which could be made for such motors. Mr. Inman believes that with economy, induced by the use of meters, such a motor can be operated for \$5 per year with water selling at a 25-cent rate. Mr. M. Hetzer, of Moundsville, W. Va., states that 40 washing machine motors are used in that city and a flat rate of \$9 per year has been made, with the option of a rate of 50 cents a thousand if a meter be installed. But a few consumers who had tried the meter rates stated that they found it cheaper to run the motors under the flat rate.

MUNICIPAL JOURNAL AND ENGINEER

Published Every Wednesday by Swetland Publishing Company
THIRTY-NINTH STREET BUILDING
231-241 West Thirty-ninth Street, New York

A. PRESCOTT FOLWELL, Editor
J. H. DONNELLY, F. E. PUFFER, Assistant Editors

Business Department

H. M. SWETLAND, President
J. T. MORRIS, Treasurer M. J. SWETLAND, Secretary
G. E. SLY, Advertising Manager
S. W. HUME, Western Representative, 1664 Monadnock Block, Chicago

Telephone, 2046 Bryant, New York

SUBSCRIPTION RATES

United States and possessions, Mexico, Cuba.....\$3.00 per year
All other countries.....4.00 per year
Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

CHANGE OF ADDRESS

To insure the accuracy of our mailing lists, subscribers are requested to notify us of any change of address, giving both the old and new addresses.

It is further requested that our Subscription Department be notified if copies are not received promptly.

Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

OCTOBER 20, 1909.

CONTENTS

System of Establishing Street Grades. (Illustrated).....	589
Filing and Indexing Systems.....	592
Insulating Steel Pipes.....	594
Settling Basin Costs.....	594
Pittsburg Civic Commission.....	595
Ornamental Lighting at Norfolk. (Illustrated).....	595
Testing Auto Fire Engines.....	596
Scientific Water Detector.....	596
Wholesomeness of Softened Water.....	596
Water Motor Washing Machines.....	596
Grades at Street Intersections.....	597
City Engineers' Records.....	597
City and Company Agree.....	597
Committee on Bituminous Road Materials.....	597
News of the Municipalities. (Illustrated).....	598
Legal News—A Summary and Notes of Recent Decisions.....	605
News of the Societies.....	606
Personals.....	607
Patent Claims. (Illustrated).....	607
The Week's Contract News.....	608
Trade Notes.....	621
Municipal Appliances. (Illustrated).....	622

Grades at Street Intersections

THE description on another page of the method proposed for establishing street grades in New York City will undoubtedly prove of interest to practically every city engineer, as most of them have from time to time wrestled with this question, which, in many cases, is difficult of solution. Although this system seems somewhat complicated at first sight, we believe that it will not be found to be so as soon as the method is really understood. There is, however, one objection to it in our minds which will make itself especially evident on side hill streets where the slopes are quite steep. This is, that no provision is made for a street cross-section in which one sidewalk is higher than the other. In fact, it is distinctly stated that opposite curbs of each street shall have the same elevation throughout.

The difficulties of designing, and, especially the cost of construction, are in many cases considerably and unnecessarily increased where this rule is enforced. For the parts of a large city where land is very valuable and a high class of street paving is used, this objection probably would not hold, as the advantages which undoubtedly are attached to the construction contemplated by the system affects so many and such important traffic and other interests as to outweigh the increased costs and make it practicable to spend much more money in grading than would otherwise be considered feasible.

City Engineers' Records

It has been said that in this age of intensity and diversity of intellectual and physical activities, the efficient man is not so much the one who can burden his memory with multitudinous details of information as he who knows where to find them. The same is true of a city engineer, whose duties are scattered over such a large proportion of the city's utilities and structures; and the best method of filing and indexing the information possessed by this office is especially desirable because of the possibility of changes in the personnel. This is illustrated by the fact that the city engineer of Salt Lake City, who has recently perfected the system described on another page, has just resigned from that office (politics, we believe; certainly not inefficiency). His successor's task should be much facilitated by the readiness with which he can consult the department's records. We would call especial attention to the folded loose leaf system described. With a single loose leaf, a diagram and the notes relative thereto must generally be on the opposite sides of a single sheet, making comparison of them inconvenient. With the folded leaf they face each other; or a diagram may cover two pages if desired. The advantage of the loose leaf in general is that notes of all kinds can be kept in a loose leaf field book of convenient thickness, to be afterward classified and assembled in books for filing.

City and Company Agree

WE are glad to learn that the Rochester Telephone Company and the Common Council of that city have settled a difference which had arisen between them by the sensible method of ascertaining the facts of the case and endeavoring to consider these in a spirit of fairness, instead of indulging in the bickering which is so common under such conditions. The company asked permission to increase its rates on business telephones, and consented to allow a firm of expert accountants to go over their books and present figures to the Council which satisfied the latter that the existing rates did not afford the company a reasonable profit, and the Council thereupon granted the request of the company that it be permitted to increase such rates. Both sides appeared to be actuated by only reasonable motives and are to be congratulated upon the result reached so amicably and without the engendering of hard feelings and the financial loss and public inconvenience which would probably have resulted from a refusal of either side to consider the arguments of the other.

Committee on Bituminous Road Materials

IN our issue of October 6th we published a statement concerning the work of the committee appointed by the American Society of Civil Engineers to collect data concerning the use of bituminous material in road surfacing. Mr. W. W. Crosby, the chairman of this committee, writes us that certain expressions used therein seem to him to convey the impression that we doubted the good faith and integrity of this committee. No part of this article was intended to imply any such doubt, nor have we at any time entertained any question of the purpose of the committee to act in the most fair and unbiased manner in the performance of their duty. We make this statement in fairness to the committee, as it is possible others may have interpreted the article as Mr. Crosby has done, although we must confess that we can see no reason for their having done so.

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Finds Coarse Stones in Concrete

Bayonne, N. J.—Having heard persistent rumors that the specifications for paving Broadway were being disregarded, Comptroller Charles E. Annett made a personal inspection. He found that some stones larger than 2½ inches were being used in the concrete and picked up two specimens and had them locked up in the safe of a trust company.

Chester Councilmen Favorable to Bitulithic

Chester, Pa.—A number of the members of Select and Common Councils went to Wilmington to inspect the bitulithic pavement and were much pleased with it. They were met at the station by the Commissioner of Highways of Wilmington and a member of the Board of City Commissioners with a representative of the paving company and taken over the town to inspect the paving. It was a good time for the visit of the Chester Councilmen, as the work of laying the pavement was in progress. What the officials of this city saw of the bitulithic paving convinced them that it is far superior to asphalt. Two blocks, one laid with asphalt and one with bitulithic on the same street, were inspected, and the Councilmen upon their return said that while the asphalt shows much signs of wear, the other paving does not show the wear. The City Commissioner of Wilmington, in speaking of the two pavements, told the Chester delegation that there will be no more asphalt laid in that city so long as the other paving material shows such pronounced superiority over it. In the party from this city were Select Councilmen James R. Bagshaw, D. J. Deakyne, Samuel McClure, Z. T. Bartleson. Common Councilmen W. Howard Ives, Charles Mould, H. W. Honan, Commissioner of Highways, and City Engineer B. G. Ladomus.

Want Assessment Plan of Paving

Houston, Tex.—The voluntary assessment plan for laying pavements is being discussed in Houston. Mayor H. B. Rice and others realize that Houston must sooner or later adopt it. A petition is already in circulation asking for an election to vote on the adoption of the assessment plan. Houston, paying the whole cost of all pavements out of public funds is falling rapidly behind all other Texas cities in the amount of her new permanent pavement.

Tar Road Shows Disintegration

Cincinnati, O.—The importance of great care in the construction of oil and tar roads is shown by an occasional report of a road that did not turn out well. The accompanying illustration shows a section of Madison road, showing breaking of the surface 10 days after it was given a tar treatment.

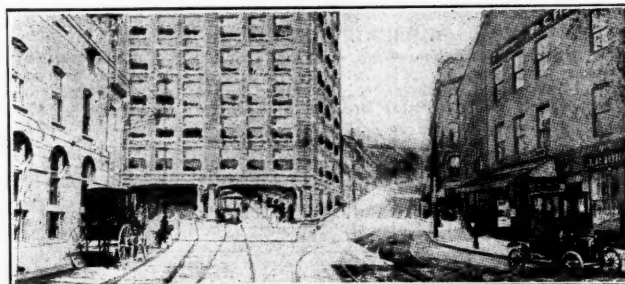


Courtesy Cincinnati Post

DISINTEGRATION OF NEW TAR ROAD

Propose Toll Subway to Hill District

Providence, R. I.—A plan for a traffic tunnel of uniform easy grade leading from the center of the city to the high East Side of Providence has been prepared by Joseph P. Manton. All classes of traffic such as would naturally travel the ordinary highway would be accommodated by the subway, provision being made for street cars, trucks, automobiles, carriages and all classes of horse or power-driven vehicles. Pedestrians would also be taken care of by a broad sidewalk. The easterly approach to the subway would be located at Fones Alley on Thayer street, and the westerly, or downtown, end at the northeast corner of College street and Market Square. Upon this site it is pro-



Courtesy Providence Journal

ENTRANCE PROPOSED SUBWAY FOR ALL TRAFFIC

posed to erect a 10-story office building above the subway entrance with the exit on the street floor. The subway construction would be of steel, with reinforced concrete side wall, arched roof between steel beams, the walls and roof faced with white enamel bricks. The length of the tunnel would be 2,100 feet, the width 60, height 16, the per cent of grade 4.20, and the cost \$1,000,000. A toll feature forms a part of the plan, and it is figured that a charge of 10 cents for street cars and 5 cents for automobiles, carriages and teams would be sufficient to pay the annual charges for interest, sinking fund and maintenance.

Place Sidewalk Next to Curb

Utica, N. Y.—Something new in this city in the matter of sidewalks, as regards position in the street, is being undertaken on Park avenue between Hopper and South streets. The walk on the east side of the street is being moved from its old position and laid down next to the roadway. Heretofore the arrangement has been, first the roadway or paved portion of the street, then the street lawn some 13 or 14 feet in width, through which runs a row of elms, then the sidewalk on the outside of the street line. Now the walk is being relaid directly adjoining the pavement, above which it is raised some inches. It is in most places a couple of feet below the level of the lawn and of the old sidewalk. The work is being done in accordance with an ordinance passed at a meeting of the Common Council in August on petition signed by the property owners on both sides of the street. Hon. George Beatty, one of the residents in the section referred to, said when questioned in regard to the change, that the people on the street believed it would be an improvement to have a lawn in front of their houses and that what was being done was a common practice in many Eastern cities, notably Springfield, Mass., where there were scores of such walks. The lawns would be graded down to the sidewalk, and the appearance of the street would be improved. There was no intention to encroach on the rights of the public.

Asphalt and Gravel Road

New Windsor, N. Y.—Quassaick avenue, a State road, is being improved under the direction of State Road Engineer Sylvester and County Engineer Smith of Middletown. A layer of coarse gravel is first spread and then coated with hot liquid asphalt. Then a top dressing of fine gravel is put over this.

Big Stick in Letting Bids

Portland, Ore.—C. F. Swigert, President of the Pacific Bridge Company, reluctantly reduced the bid of his company for bitulithic pavement on Division street between East Tenth and East Forty-first street at a meeting of the Street Committee of the City Executive Board from \$2.09 a square yard to \$2. The contract involves a consideration of approximately \$110,000. "Do you want this contract?" inquired Henry L. Corbett, chairman of the committee, of Swigert. "We would be very pleased to get it," was the reply. "Will you reduce your bid from \$2.09 to \$2 a square yard?" questioned Chairman Corbett. "I don't know. Will you award the contract for \$2?" returned Swigert. "Yes," was the reply. "Then I suppose we will have to graciously accept it," returned Swigert. "The contract is awarded to the Pacific Bridge Company at \$2 a square yard, providing the company consents to guarantee the street for five years free of charge," ordered Corbett. While the dialogue between Chairman Corbett and President Swigert of the contracting firm was in progress smiles and winks passed from one to another of the small army of paving contractors who were in attendance at the meeting. The "big stick" methods of the committee have been hitting them right and left for some time past, and it was amusing to them to see one of the big paving barons lambasted. The price which the Pacific Bridge Company gets for the work is considerably less than the amount which it has received for similar work in the past.

Bridge Repaired by Automobile Club

Auburn, N. Y.—The historic free bridge over Seneca River, on the main road between Rochester and Syracuse, has been repaired and thrown open to traffic. It was originally a toll bridge, but was later acquired by Cayuga and Seneca counties. Some question having arisen regarding



Photographed by Automobile Club of Syracuse

SENECA RIVER BRIDGE, AUBURN, N. Y.

the rights of acquiring owners, the Supervisors refused to repair the bridge. The Auburn Automobile Club took the matter up, and by subscription among automobile clubs and interests collected enough money to make the repairs. During the time the bridge was closed it was necessary for persons coming from the West to make a detour of over 60 miles. The illustration shows the bridge completed, except for the guard rails.

Pekin Begins Era of Paving

Pekin, Ill.—The beginning of the work of improving South Fourth and South Fifth streets by paving them with brick, for which Contractor A. D. Thompson, of Peoria, has the contract, marks a new period in municipal betterment in Pekin. It is the first contract of such magnitude ever let, and other and more extensive work is planned for next year. There are but eleven blocks of paved streets in Pekin now, but it is believed there will be many miles in a few years.

Resolution Not to Tear Up Pavement Does Not Work

Philadelphia, Pa.—In spite of the repeated assertions that the new wood block paving on Market street would not be allowed to be disturbed, two cuts were made in it between Ninth and Tenth streets. A cable of the Philadelphia Electric Company, which supplied power to a factory broke. The excavations were each about four feet square. The company made no attempt to replace the pavement, but left it to the contractor.

SEWERAGE AND SANITATION**To Study Pollution of Ohio River**

Columbus, O.—Elliott Kimberly and Philip Burgess have been employed by the Ohio River Sanitary Commission to make an investigation of sources of pollution in the Ohio River between Pittsburg and Cincinnati, and will make a report to the Commission at its meeting in November. The engineers will begin work at East Liverpool, going from there to Marietta; thence to Parkersburg, Gallipolis, Iron-ton, Portsmouth, Maysville, Ky., and on down to the Queen City. A few weeks ago thousands of fish in the Ohio River were killed by some unknown cause, and this will also be investigated.

Injunction Stops New Sewer System

East Point, Ga.—The new sewer system, the completion of which was recently celebrated by speeches and a barbecue, is at present more ornamental than useful. The sewage was planned to be delivered into two creeks, but the property owners along these streams have secured a temporary injunction.

Sewer Cleaning Machine a Limited Success

Erie, Pa.—Reporting on a bill for \$150 from the Thompson Sewage Cleaning Machine Company, of Buffalo, N. Y., City Engineer B. E. Briggs said that the machine had been on trial and failed to do the work, but by using a part of the apparatus for 12 days his department cleaned the Sixteenth street sewer. He thought \$5 a day was enough to pay for the machine, and the bill was referred back to the Engineer, giving him power to settle at not more than \$60.

Health Board Crusade Against Lunch Wagons

Indianapolis, Ind.—An investigation of lunch wagons has shown the Board of Health that they should be abolished or radical improvements made. An inspector has visited the kitchens which prepare the food for the wagons and reported that with one exception they are filthy. He found a stable where food was cooked for five wagons in the loft, while horses were kept on the ground floor. Other kitchens were found that were filthy beyond description.

Should Not Have Let River Rise

Millville, N. J.—The banks of the Maurice River have been overflowed and Millville's new \$22,000 sewage disposal plant is under three feet of water. The Council claims that the construction of the plant is faulty, and will hold up the contractors' money.

Clean Paper Money to Prevent Contagion

Norfolk, Va.—Health Commissioner Dupuy has suggested that a movement be started for legislation to retire from circulation soiled paper currency as a safeguard against the transmission of disease. The Commissioner has reported that to his personal knowledge there has been in Norfolk one case of smallpox which was traceable directly to paper currency.

Fear Cleveland's Sewer Plan

Painesville, O.—The Lake County Medical Society, consisting of the physicians in this city and villages of the county, unanimously approved a resolution presented by the local Board of Health, protesting against the proposed outlet of the Cleveland intercepting sewer, which will empty into the lake at Collinwood. This resolution is addressed to the State Board of Health, and was adopted because of the menace the sewer is expected to be. It is feared that the water of this city will be polluted.

Seek Sewage Outlet

Virginia, Minn.—The Committee on Streets, Alleys and Sewers has a problem to solve in the matter of a sewerage outlet that will undoubtedly keep them guessing for a time. Owners of lots have entered a protest against Virginia's sewage emptying into waters adjoining their land. They claim that Virginia's sewage is being run into a creek which runs through their land and empties into Manganika Lake, which also borders their property, and as a result the value of such property has been utterly destroyed. They claim that this is in violation of their rights, a nuisance and a trespass, and demand that the city abate the same by taking steps to remedy the evil.

May Drop Opposition to Passaic Valley Sewer

Newark, N. J.—The United States Government is prepared to abandon its opposition to the construction of the Passaic Valley trunk sewer on certain conditions, laid down in a report by Col. W. M. Black, U. S. A. The most important of these conditions are that the sewer shall discharge its contents into the bay with not more than 75 per cent of the organic matter in putrescible state; that no solid material shall be clearly noticeable at the surface of the water near the point of discharge, nor any noxious gases, oily deposits or discoloration; and that if the sewer is built and operated the officials charged with its construction and operation shall engage to satisfy the Government, at any time, that the requirements are being complied with. It is not at all certain that the Passaic Valley Sewerage Commission will submit to these conditions, and they may continue the fight to discharge the sewage without any other purification than screening.

Official Notice Taken of Poisonous Hair Dyes

Washington, D. C.—Declaring that death or serious injury to health results from the use of some hair dyes and dressings, Health Officer W. C. Woodward has recommended to the Commissioners that measures be taken to regulate or prohibit the sale or use of such compounds containing dangerous quantities of poisons.

To License Lunch Rooms if Sanitary

Washington, D. C.—Health Officer W. C. Woodward has recommended to the Commissioners that the sanitary state and equipment of the place be made a condition of the issue of a license to the maintenance of a restaurant, lunch room or other similar place.

WATER SUPPLY

Water Famine Certain in Dry Seasons

Baltimore, Md.—In urging an immediate appropriation for starting work on the Gunpowder River reservoir, Water Engineer A. M. Quick declares that he can demonstrate from figures in his office that the city's water consumption exceeds by a considerable amount the minimum clear water flow of the sources of supply. This means a certain water famine in dry seasons.

Object to Drinking Salt Water

Beaumont, Tex.—Council has directed City Health Officer Williams to make a thorough analysis of the city water and submit a report. The supply is obtained from the Neches River, and owing to the light rainfall during the past summer the salt water from the Gulf has found its way farther up the river than usual. At times the water has been too salty to use for drinking purposes. The only remedy seems to be for the water company to move its plant higher up the river.

Satisfied with Water Works Appraisal

Mansfield, Pa.—Messrs. Wheelock, Shaw and Champaign, appraisers of the Mansfield water system, have filed with Judge David Cameron in Wellsboro their report, which places a valuation of \$40,000 on the system. From this report the water company or the Mansfield borough authorities may appeal, if they so desire, within 10 days. So far as the borough authorities are concerned, it seems safe to say there will be no appeal. They consider the appraisal a fair one, and are willing to purchase the water plant at the figure named.

Municipal Ownership War Is On

Marietta, Ga.—The Board of Water Commissioners and the Public Service Corporation, which has been supplying Marietta with lights and water, are at war. The Board declared war in a circular headed "Warning to the People of Marietta." This document informed the people that a canvass of the city was being made by a representative of the Georgia Manufacturing and Public Service Company for the purpose of inducing its patrons to sign five-year contracts for water service. This is characterized as an attempt to embarrass the city officials in making a success of the water system, for which a contract has been let. The company's water works are called inefficient, and weak pressure at a recent fire is cited to prove it.

Appeal to Governor to Stop Diversion of Water from State

Jersey City, N. J.—At a conference of Newark and Jersey City officials it was agreed that Mayor Haussling of Newark and Mayor Wittpenn of Jersey City should go to Governor Fort and ask him in the name of the two municipalities to immediately convene the Legislature in special session for the purpose of considering a bill to prohibit the diversion from the State of ground water. The object is to prevent the East Jersey Water Company from carrying out its plan of furnishing water to Staten Island and later on to Brooklyn for the reason that before many years New Jersey will need all of its water, both surface and underground.

Odd Water Service Problem

Chicago, Ill.—An extensive private water works plant, where the liquid is pumped free of charge by the city, to be disposed of by the owner, has been discovered by city officials on the premises of Patrick E. McDonnell, 3500 South Kedzie avenue. Mr. McDonnell is an airship inventor, as well as Chief Engineer at the city's Fullerton avenue pumping station. Edward J. Brundage, Corporation Counsel, and John J. Hanberg, Commissioner of Public Works, are now trying to extricate the city from the contract. In 1899 the city laid a 36-inch water pipe across McDonnell's land instead of in the center of South Kedzie avenue, 94 feet farther west. On March 18, 1901, the City Council, in return for the use of his land, gave him permission to tap the main with an 8-inch pipe. From this he now supplies his airship factory, a laundry on the premises and the Empire Car Company, which is a neighbor. These sources are said to yield McDonnell hundreds of dollars every year. The Law Department holds that the city had no right to put the pipe on the premises, but that Mr. McDonnell should be limited to what water he needs for himself.

Insist on Filtered Water

Canonsburg, Pa.—Council, acting on advices from the Board of Health, has ordered Borough Solicitor C. W. Campbell to prepare papers that will be presented to court to compel the North Strabane Water Company to furnish filtered water in accordance with the terms of an ordinance which was in force at the time the franchise was granted to the local company.

Shallow Wells Solve Water Problem

Marshall, Tex.—The water situation has improved. The city is sinking more shallow wells as fast as possible and connecting them up for use as they come in. These wells are being sunk at the rate of one a day, and the city will very likely sink about 100 of them for the water works system. These wells were badly needed, as it has been about four years since the city has added a well to its present system.

Paterson Wants Wanaque Supply

Paterson, N. J.—Following the refusal of the State Potable Water Commission to grant the application of the city of Newark for the Wanaque watershed, the Board of Finance has directed the City Council and the City Engineer to prepare an application for the use of that supply for Paterson, which has already voted to own its supply.

Owens Waterless Reservoir

Pottsville, Pa.—The Pottsville Water Company has completed its big reservoir at Wolf Creek, which will hold 3,000,000 gallons. Owing to the drought, however, there is no water running into the reservoir, and all the money spent on its construction is useless, so far as the present emergency is concerned. In normal times Wolf Creek is a big stream.

Value of Reservoir Demonstrated

Rochester, N. Y.—A demonstration of the value of the Cobbs Hill reservoir occurred recently. This reservoir, lately completed, contains 10 days' supply of water, enough to serve the city in case of a break in the conduit from Hemlock Lake and one occurred near Bloomfield.

Tulsa Will Try Wichita Plan

Tulsa, Okla.—An experiment is being undertaken to get pure water from the sand beds of the river about 40 feet below the surface level. This is the system that has resulted satisfactorily in Wichita for the past 23 years. A centrifugal pump has been rigged up on a scow and pipes will be sunk.

Meters Increase Charges

Oakland, Cal.—A mass of complaints presented to a joint commission of citizens and Councilmen seemed to show that there has been a general increase in the amount charged householders and water users since the adoption of the meter system. Increases complained of ranged from \$3 per month to \$15. The complaint came not only from those who had been served under the flat rate rule prior to last July, but also from those who have had meters for years. The charge was also made in some instances that meters had not been read at all. Representatives of the People's Water Company made no specific explanation of cases presented, but took the ground that the meter system always showed a large increase in the amount paid for a while, until householders learned the art of economizing.

Reservoirs Show Effects of Metering

Oakland, Cal.—Already the valuable effect of the meterage system of supplying water is being shown in a practical manner. Although but a small portion of Oakland is metered, there is now 9 feet 11 inches more water in Lake Chabot than there was on this date last year. There is 20 feet more water in Lake Temescal. This is the direct result of a partial system of metering.

STREET LIGHTING AND POWER

Maryland City Lighted by Electricity

Denton, Md.—Denton is now lighted by electricity, the plant at Garey's Mill, three miles from town, having been completed. The current was turned on on a Saturday night, and stores, residences and streets in town were for the first time illuminated by "juice." The working of the plant and transmission system and the brightness of the illumination were very satisfactory to the operators and patrons. The plant is owned by the Peninsular Light and Power Company, controlled by Harvey L. Cooper and Albert G. Towers. Ridgely and Greensboro will also be supplied.

Action on Municipal Plant Postponed

Fargo, N. D.—The question of submitting to the voters the question of issuing bonds for building a municipal electric plant came up in Council and was acted on adversely. The general sentiment seemed to be that as the local company had made a substantial reduction in rates, the city should wait a year to get results. Besides, it seemed doubtful if the city could supply current any cheaper.

Complain of Meter Readers

Fort Worth, Tex.—The present method of handling cards left at the homes of consumers by the meter readers of the City Water Works Department was under fire at a meeting of the Fifth Ward Civic League. Complaint was made that in many instances the cards were carelessly thrown into the yards, and a request will be made to the City Commission that the readers be instructed to hereafter deliver the cards to the occupants of the house as carefully as Uncle Sam's carriers deliver mail matter. In some cases meters were not read and in others gross mistakes were made.

Enjoins Natural Gas Contract

Hamilton, O.—The Hamilton Gas and Electric Company, which now has a monopoly of the artificial gas business of Hamilton, has enjoined the city of Hamilton from carrying out a contract with the Ohio Fuel Supply Company to supply the city with natural gas for the next 10 years. The city now pays the Hamilton Gas and Electric Company 60 cents per 1,000 feet for gas. Under the natural gas contract the city gets gas at 18 cents per 1,000 feet.

Poles Set Too Close

St. Albans, Vt.—It has been brought to the attention of the Council that on several streets of the city the telephone and electric light poles are too near together and that in time of storms and heavy winds they are liable to come in contact with each other and cause considerable damage, the fire alarm system of the city being especially susceptible to damage from this source. The matter was referred to a special committee, composed of Aldermen N. J. Jarvis, L. L. C. Best and J. F. O'Neill.

FIRE AND POLICE

Fire Engines Ordered From High Pressure Zone

New York, N. Y.—Chief E. W. Croker has issued an order which means the permanent passing of the steam fire engine in certain sections of New York. The order states that high pressure service will be used exclusively in lieu of engines at all fires in the high pressure zone, and from the time the alarm is given until the department directs that the service of the pumping station be discontinued, it will be under the orders of the department. Upon receipt of an alarm in the high pressure zone the engineer in charge of the pumping station will start the pumps at a pressure of 125 pounds and maintain it until further orders.

Modern Fire Station and Equipment

Alliance, O.—The new fire station No. 3, located in the south end, was dedicated as a part of the programme of the convention of the Fire Chiefs of Ohio. It was erected at a cost of \$3,800. It is equipped with a triple combination



Courtesy Alliance Review.

TRIPLE COMBINATION AUTO APPARATUS AND FIRE HOUSE

automobile fire engine, said to be the only apparatus of its kind ever built. It was built by the Robinson Fire Apparatus Manufacturing Company, 4520 North Twentieth street, St. Louis, Mo. The apparatus is in charge of Captain W. L. Baker and two men.

May Protect Neighbor Town

Alliance, O.—Since Alliance has secured its automobile fire apparatus the proposition is being considered to use the Fire Department for fires in Sebring, four miles east of the city. Chief Arthur S. Aungst says he can have his automobiles there within 10 minutes after the alarm is sounded. Former Chief William Aungst, about the time he died, was agitating an inter-city fire call arrangement for the cities of Stark County.

Applying Civil Service to Fire Department

Wheeling, W. Va.—Applicants for official service in the Wheeling Fire Department under the new Civil Service rules as provided in the new city charter, have been examined by the Board of Control. By official service is meant all the officers of the Department except the Chief, and while he serves in an official capacity, he is not under Civil Service. All of the applicants passed the examination, and henceforth serve under Civil Service rules. The applicants, the Captains and Lieutenants, were examined separately and were put through a severe test as to their knowledge of the location of water mains, fire plugs, fire boxes and of the apparatus and machinery in use in the Department. They were required to answer a list of questions as to what they would do in case of fires originating from every conceivable cause and in all kinds of places. That the men all passed the examinations is in a large part due to the training they have received under Chief Altmeyer since his installation as head of the Department. For the labor service in the Department the Board is now making ready to conduct examinations. Questions for the examinations of the engineers in the service are now being prepared and these members will next be called before the Board.



Courtesy New Bedford Standard
NEW ENGINE HOUSE, NEW BEDFORD, MASS.

New Engine House Dedicated

New Bedford, Mass.—The new fire house No. 10, the most up-to-date of any in the city, was dedicated in the presence of 250 guests. Speeches and a lunch composed the programme.

Fire Company Fights Eliminating Ordinance

Long Branch, N. J.—Legal measures have been invoked by the Atlantic Fire Engine Company to preserve its official existence. The company was suspended for insubordination last June, while a new fire ordinance, passed recently, and signed by Mayor McFaddin, eliminates the company from service. To the Atlantic Company, through its counsel, was granted a writ of certiorari by Judge Willard P. Voorhees at Freehold. The writ was granted on the ground that the Atlantic Company was a part of the city government, and its employees come under the tenure act, and can be dismissed only for causes after being proved.

Concentrating Apparatus in One House

Biddeford, Me.—A new six-way fire station has been built and will bunch its apparatus. The quarters will be occupied by three steamers, two hose wagons, a truck and chemical engine. The fire alarm apparatus will be located at this station.

Gongs to Clear Way for Fire Apparatus

Chicago, Ill.—Gongs on patrol boxes will notify policemen on beat in the downtown district in the future when engines and other apparatus are rushing to a fire in the business center and will give the officers more time to clear the streets and afford the fire engines an unimpeded path.

Annual Review of Police Dogs

Paris, France.—An annual review and parade of police dogs was held in the courtyard of the city barracks by M. Lepine, the Prefect of Police. Telegraphic orders were sent out in the morning to all the police officers in charge of police dogs to bring them up for inspection, and an hour later 25 splendid animals, highly trained for police work, were assembled. M. Lepine, accompanied by a Departmental Chief, M. Tonny, entered the courtyard, and all the dogs, at a sign from their policemen keepers, gave the three regulation barks. Some of them barked four or five times more than was necessary. The animals were then put through their paces. A man got upon a bicycle and pretended to try to escape. A dog, which had first been carefully muzzled, was sent after the fugitive. The animal, finding it was unable to use its teeth, kept furiously butting into the bicycle and did not leave off till it had succeeded in knocking the machine over. The dogs eventually formed fours and marched past the Prefect, much to the delight and amusement of the privileged onlookers. The animals turned about with marvelous obedience at the word of command. M. Lepine ordered extra rations of bones as a reward for the dogs' intelligence.

GOVERNMENT AND FINANCE

May Make Alternative Drafts of Charter

Baltimore, Md.—The Charter Revision Committee is divided into radicals and conservatives, those who favor a new charter providing for the commission form of government and those who favor a modification of the present charter. Dr. William H. Welch, of the Commission, has suggested that two drafts of a charter be drawn, one providing for a commission and one along more conservative lines, and that the two be submitted to a vote of citizens. In order to get all possible light on the subject invitations have been sent to members of the New York and Boston Charter Commissions asking them to come to Baltimore to confer with the local Commission.

New Step Taken in Civil Service

Chicago, Ill.—A new extension of Civil Service methods is indicated in the following letter sent out to each department head by President Elton Lower of the Civil Service Commission:

To facilitate the work of this office, as well as that of the various departments, will you kindly designate some one official or employé in your department to transact all routine Civil Service business and give him credentials which the Commission will recognize until further notice.

The purpose of this is to obviate delay and confusion in the administration of Civil Service in the various departments growing out of a lack of knowledge on the part of the Commission as to the requirements of the department, and frequently out of unfamiliarity on the part of those who call at the office, representing the departments of the requirements of the act and rules. You will readily see the advantage of the plan suggested if it can be successfully carried out.

Another advantage to be obtained will be the fact that by their familiarity with the two departments they would be able to answer inquiries in regard to examinations, promotions, etc., among employés of their department, or could obtain the information readily, thereby obviating the continual visiting of the Civil Service office by great numbers of city employés.

Wants a Special Village Charter

Canandaigua, N. Y.—The committee appointed for the purpose of considering the advisability of adopting a new charter has voted unanimously not to incorporate under the village laws of the State, and not to incorporate as a city of the third class. This leaves but one course, namely, to adopt a special charter suited to the special needs of the village. The consideration which seemed to have the most weight with the committee in refusing to vote for a city charter and in unanimously voting against that form of charter, was that under such a charter the license questions could not be submitted to the voters as a whole city or by wards. It is probable that the ward system will be eliminated from the new charter, thereby making all village officers elective by the whole village.

Character of City Litigation Changes

Indianapolis, Ind.—In his report for the eighteen months ending July 1, Frederick E. Matson, corporation counsel, calls attention to the fact that the character of litigation against the city is changing. Until 1906 the bulk of suits were personal injury damage suits, but since that time the number of cases growing out of public works, such as track elevation, street openings and vacations, sewers and street improvements, has grown until such cases predominate. During last year out of 129 new cases filed, eighty-eight were due to some kind of public work. From January 1, 1906, to July 1, 1909, the legal department disposed of 134 damage suits, at an average cost of \$121, including one compromise settlement of \$1,100. Mr. Matson also calls attention to the fact that during his administration, only four judgments in damage suits have been entered against the city, one of which was the case mentioned as having been compromised. The question of damage suits against the city has been greatly expedited by a law passed by the legislature of 1907, requiring persons injured through defective streets to give written notice to the city within sixty days of the time, cause and nature of injury. Mr. Matson also presents a table showing that the expense of conducting the legal department is the lowest of fourteen cities having populations between 80,000 and 200,000.

Mayor Would Impeach Judge

Lowell, Mass.—Threats of impeachment proceedings before the Massachusetts Legislature against Judge Dana of the Suffolk Superior Court are the answer of George H. Brown, Lowell's "Policeman Mayor," to the action of the jurist in restoring to office a Board of Police Commissioners Brown had deposed for alleged neglect of enforcing the liquor laws. The fight, if Brown carries it so far, will be far-reaching in its effects, for Judge Dana's decision makes Police Boards of towns and cities independent of all Mayoralty control. Ever since Policeman Brown was elected Mayor of Lowell he has had friction with the Police Board, and its culmination came some time ago when its three members, Frank K. Stearns, Charles H. Hanson and Thomas P. Boulger, were dismissed. The gist of Judge Dana's decision was that the only reason for which they could have been ousted by the Mayor was for malfeasance in the office and of that, he said, there was no proof. Then his decision added the crux of the whole matter. He said: "The Mayor has not the right to remove the Board of Police merely because he differs from the members, and they from him, in a matter of policy, which is exclusively within their control." Mayor Brown, when informed of the finding, said: "I intend to appeal to the Legislature for the purpose of having impeachment proceedings preferred against Judge Dana. I intend to ask the Legislature to appoint a committee to investigate the liquor traffic of Lowell since the inception of the Police Board in 1894. This committee will be similar to the Lexow Committee in New York." The whole dispute is of vast interest throughout New England and is expected to result in one of the hottest fights in years if the matter is finally taken to the Legislature.

Whole City Government Indicted

Marshalltown, Ia.—Mayor O. L. Ingledue, his Chief of Police and the entire police force, as well as Deputy Sheriff C. B. Nelson, were all indicted by a Federal Grand Jury for imprisoning for more than 24 hours government agents who were seeking evidence against Marshalltown saloons.

New City Charter Lost

Rockland, Me.—The proposed new city charter which contemplated the abolishment of the Common Council and the election of subordinate officers by popular vote was defeated in the special election, October 4, by a majority of 174. Less than one-seventh of the city's voters went to the polls.

Poor Market for City Bonds

Utica, N. Y.—Fred G. Reusswig, Comptroller, has written to Council advising that the interest rate on bonds be changed from 4 to 4½ per cent. He says that the two principal factors in the unfavorable situation in the municipal bond market are: First, the placing upon the market within the last few months of an unusual volume of municipal bonds, especially by the larger cities. Second, and most important, the tendency of savings banks, heretofore the largest investors in this class of securities, to place their money into other channels. These institutions now find it to their advantage to invest their surplus in guaranteed mortgages upon real estate in the vicinity of New York. As these guaranteed mortgages bear 4½ or 5 per cent interest they are obviously more profitable than a 4 per cent municipal bond, and this fact explains why savings banks are turning from the latter.

City Steadily Reduces Debt

Williamsport, Pa.—Hiram M. Ulman of the Finance Committee of Councils remarked at a recent session that at present the city's entire indebtedness does not amount to more than \$475,000, which is less than it has been at any time in the past 25 years. He stated that the city at present was paying off the debt at the rate of about \$25,000 per annum.

Charter Fails to Provide for Vacancies

Bristol, Tenn.—It is claimed a flaw has been discovered in the new city charter, there being no provision whatever for the election of successors to members of the Aldermanic body, upon their death or resignation. C. C. English has resigned, but the Board has failed to elect his successor owing to this. Provision is made for filling vacancies in all other offices.

REFUSE COLLECTION AND DISPOSAL

Temporary Water Works for Street Sprinkling

Dallas, Tex.—The pumping of water from the Trinity River at the foot of Commerce street for use in street sprinkling has begun. The water cars of the street railway system are loaded at Commerce and Market streets, to which point a surface main four inches in diameter has been laid in the gutter on the north side of Commerce street. All of the streets traversed by the railways will be watered at least once a day. This will be glad news to many who have complained to the City Commissioners of the dust from passing cars. The main from the river to the cars is used for loading the city's sprinkling wagons as well. A centrifugal pump on the bank of the river raises the water and forces it to the tank cars. Where the main crosses Water street and Broadway there is a culvert under the railway tracks and streets, placed there long ago. At Houston, Jefferson and Market street crossings the pipe is covered by a wooden bridge.

Garbage Collectors to Be Uniformed

Harrisburg, Pa.—Health Officer Hutton has arranged with the Pennsylvania Reduction Company, the municipal contractors for the disposal of garbage and ashes, relative to better service. Hereafter it is agreed the employees of the company shall be uniformed. Another detail arranged was that an extra wagon with one man should follow collection wagons. When the first wagon is filled the collectors from the first will go to the second and proceed with the collection. Heretofore the collector has returned to the plant with the driver of the full wagon and much time was lost.

Night Cleaning for Kensington Streets

Philadelphia, Pa.—The Kensington Board of Trade has won its long fight for the cleaning of streets at night and has received word from the Street Cleaning Bureau that their wishes would be carried out. There has been much complaint that in day cleaning dust was blown into the faces of pedestrians and on wares displayed for sale.

Garbage Crematory Contract Held Up

Portland, Ore.—Proposals received for a garbage crematory will be taken under advisement for a period of 30 days. City Engineer Morris and Superintendent Napier of the crematory are favorably impressed with the proposition of Lewis & Kitchen to build a crematory for approximately \$100,000. This firm proposes to install a steam-generating plant in connection with the furnaces in the crematory, by means of which the burning garbage will generate 700 horsepower of steam. It is estimated that if the steam can be sold the city will be able to operate the crematory at a profit of \$6,000 annually.

RAPID TRANSIT

Somerville and Medford Opposed Regarding Elevated Line

Boston, Mass.—The proposition to give the Boston Elevated Railway Company the right to build an elevated railway from Charlestown to Medford was argued before the State Railroad Commission. Citizens of Medford are strongly in favor of the proposition, claiming that it is an absolute necessity that better transportation facilities be given. A subway would be unobjectionable, but the cost prohibitive. Somerville, situated midway on the proposed line and needing it less, opposes the project on the general grounds that elevated structures damage property through which they run. In this particular instance the damage would come through the fact that it would run along Mystic avenue and cut off the river front from the city.

Makes Rules for Street Railway

Topeka, Kan.—City Attorney Ralston has been instructed to draw up an ordinance covering the construction and operation of street railroads. For the past 20 years the city has done little or nothing toward controlling the operation of the street railway.

Cleveland Traction Situation

Cleveland, O.—A conference was held October 4 to arrange final details which will result in an absolute settlement of the local street railway situation which has been bitterly agitated for eight years. During the life of the controversy it has been a political issue at all times. The basis of the strife has been Mayor Tom L. Johnson's contention for three-cent fares. The proposed settlement will be upon this rate of fare and will eliminate the street car question from the fall campaign. It is agreed that the city shall give the Cleveland Railway Company, the owner of the local lines, a twenty-five-year franchise, revokable at any time any of the details of the contract with the city are violated. The city reserves the right to purchase the lines at any time municipal ownership is made lawful, providing the city desires to take over the lines. The city also reserves the right to name a purchaser of the lines after eight years. The initial rate of fare is to be three cents on all lines, with a one-cent extra charge for a transfer. Both the city and the railway company have agreed to let Judge Robert W. Tayler, of the United States Court, determine the value of the railway property and the maximum rate of fare. It is agreed that at no time shall the rate of fare be greater than will allow the company an earning of more than 6 per cent upon the value of the property consistent with good service. Judge Tayler has indicated that he will make the maximum rate of fare four cents for a cash fare, and the regular ticket rate seven tickets for 25 cents and a cent extra for transfers. This proposition has been accepted both by the city and the railway company.

MISCELLANEOUS

Pittsburg's Problems for Experts

Pittsburg, Pa.—The Civic Commission has adopted the following program covering the proposed studies to be undertaken by its experts, Bion J. Arnold, John R. Freeman and Frederick Law Olmsted:

The purpose of the investigation is to inquire into the present and prospective needs and limitations of the Pittsburg industrial district and, so far as its physical development can be effectively controlled by the action of the community, to find out, and report to the citizens, what important practical steps can be taken by the regularly constituted authorities of the district for making that development satisfactory and economical. The most important lines of investigation to be considered are:

First—A study of the freight handling facilities of the Pittsburg district, with a view to forming a reasonable forecast of what enlargements, extensions and changes of trackage may be looked forward to as necessary for providing the most economical and satisfactory means of handling a far greater future bulk of local and through freight. This, not only to relieve congestion, but because of its fundamental importance in influencing the location and design of other improvements under municipal control, such as bridges, streets, flood prevention and parks.

Second—A study of the problem of main thoroughfare and local passenger railways, primarily from the traffic standpoint, with a view to gradually developing a plan for a broadly comprehensive and adequate system of such thoroughfares and railways for the entire Pittsburg district.

Third—A study of the secondary and local streets as distinguished from the main thoroughfares; to be considered from the view of traffic, real estate development, economy of maintenance and influence upon the health and pleasure of citizens, with a view to devising the establishment of administrative machinery for the intelligent and effective control of the layout of all new streets of secondary or local character.

Fourth—Study of the situation in respect to parks, playgrounds, squares and public buildings, with a view of formulating a reasonable, systematic policy as to the distribution of them and a program of what can expediently be undertaken each year in the way of acquisition of sites and the development thereof.

Fifth—A study, now going on, of flood prevention, with a view of preparing a definite plan of improvements, co-related with street and railway improvements.

Sixth—Study of the problem of water supply and sewage, with a view of forecasting requirements for the next 50 years. Devising a comprehensive general plan for meeting it economically and suggesting where and how the responsibility for doing the work should be placed.

Seventh—Study of the practical results of existing public control over private property, especially in connection with housing the people, through building regulations, health regulations and with a view to general public comfort.

"Chicago Course" in Public Schools

Chicago, Ill.—A "Chicago course" is to be introduced in the public school curriculum next January, and the pupils are to be made familiar with the government of the city to the last detail and learn the exact scope of the business transacted daily at the stock yards, the number of charitable organizations in the city and many other facts that will aid in the performance of their future civic duties.

London Worth \$3,000,000,000

London, England—The London County Council has spent a decade in preparing a ground plan of London showing the owners of the land. This is nearly completed. It shows that 34,600 landlords own land covering 113 square miles, these being mostly single house owners. Sixty square miles are owned by 187 persons, organizations and corporations. One-third of the area belongs to the crown, the Ecclesiastical Commissioners, the County Council and the City Corporation. It is estimated that the present value of the land upon which London is built is \$3,000,000,000.

A Move Towards City Planning

Norfolk, Va.—City Attorney Duncan has passed his judgment upon a measure which would bar from annexation all suburban lands not platted under supervision of the City Engineer. An ordinance to this effect was referred to him a few days ago by the Ordinance Committee of Councils. He asserts that the Councils undoubtedly have the right to pass such an ordinance. Of that the ordinance committee felt confident all the time, but feared that the measure bespoke doubtful results.

State Officer Aids Civic Improvement

Raleigh, N. C.—State Horticulturist Hutt will prepare illustrations and perhaps slides for pictures, covering about a hundred views of streets and buildings and the leading places in North Carolina, designed to show what is good and bad in care of streets, alleys, sidewalks, grounds, etc. This work is in the interest of civic improvements, and the pictures are to be shown at many points in the State.

Washington Plants 3,988 Trees

Washington, D. C.—A total of 3,988 young trees were set out on the various streets of the District during the fiscal year ended June 30, 1909, according to the annual report for that period, issued by the Superintendent of Trees and Parking. This number exceeded that of the preceding year by 659, and is largely in excess of the record established in any year since 1885. The cost of the entire work, the report shows, was \$15,455.49, or \$5.29 for each tree. This cost is larger than that of last year, attributed by the Superintendent to the increased cost of skilled labor and the large amount of nursery planting done. The report shows the trees planted were of these kinds: Ash, 39; elm, 626; gingko, 214; linden, 155; Norway maple, 825; pin oak, 316; pyramidal oak, 3; silver maple, 495; sugar maple, 273; sycamore, 978, and red oak, 64.

'Bus Lines in Parks

Washington, D. C.—Engineer Commissioner W. V. Judson has written a letter to the authorities in New York and Philadelphia requesting information concerning the operation of 'bus lines in Central and Fairmount Parks in those cities. Major Judson says that the proposition of any sight-seeing company to install in Rock Creek Park a system of 'buses which will meet with the requirements will be seriously considered by the Commissioners. The 'buses must not be of excessive weight, so as to injure the roads and must be of a width to permit the free passage of other vehicles.

For Wooden Wharves

Washington, D. C.—Daniel E. Garges, Chairman of the Wharf Committee of the District is in favor of constructing the new wharves of wood instead of reinforced concrete. Concrete is objectionable on account of its high cost and on account of the fact that any arrangement of wharves should be elastic. That is the wharves must be easily subject to modifications to conform to the changes in size of boats and the character of shipping. The life of a timber wharf is estimated as something over thirty years.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities**Paving Contract—Guarantee**

City of Akron vs. Barber Asphalt Paving Co.—In an action by a city on a guaranty, in a contract for paving, that the contractor would keep the pavement in repair for ten years, where the contractor received payment for the work in full it has no interest in the source from which the money was obtained which entitles it to set up as a defense that the contract was illegal because the city made a special assessment on abutting property for the entire contract price of the work, although it had no power to levy such assessment for repairs, it having undoubted power to contract for the repairs and to pay for the same from its general fund. A city which levied and collected a special assessment to meet its obligation on a contract for paving a street would be estopped to set up the illegality of the assessment to defeat recovery by the contractor on such contract, and for the same reason, where it has paid the contractor in full, the latter is also estopped to plead such illegality to avoid the contract when sued on a guaranty to keep the pavement in repair contained therein. Where, at the time a contract for paving a street was made which contained a guaranty by the contractor to maintain the pavement in good condition for ten years, making all necessary repairs without further charge, a street railroad was being operated on the street, the contract must be presumed to have been made in the light of such fact, and the contractor cannot avoid obligation on its guaranty on the ground that the pavement was broken because of the insufficiency of the foundation of the street railway tracks, nor because during the ten years the city renewed the grant to the street railway company, nor because heavier cars were used by such company, all of which must be presumed to have been within the contemplation of the parties.—United States Circuit Court of Appeals, 171 F. R., 29.

Elections—Ballots—Validity of Act

McLaughlin vs. Summit Hill Borough.—The ballots to be used at an election to ascertain whether the indebtedness of a borough shall be increased must be official ballots furnished by the County Commissioners and must be in the form prescribed by Act April 29, 1903. Act April 29, 1903, amending Act June 10, 1893, and Act July 9, 1897, relating to the nomination and election of public officers, etc., is not unconstitutional, because such two acts are unconstitutional for defective title, where the latter act not only amends the title of such acts, but also re-enacts a section therein. Act April 29, 1903, relating to official ballots, repeals Act June 9, 1891, relating to elections on the question of increasing the indebtedness of municipalities. A section of an act which is unconstitutional, because of the defective title of the act, cannot be amended even by changing the title of the original act.—Supreme Court of Pennsylvania, 73 A. R. 976.

Accident in Highway—Negligence

Wade vs. Town of Worcester.—A part of the road on which plaintiff was riding when injured had been traveled for forty years without accident, and next to the traveled part, which was 12 feet wide, the westerly bank rose abruptly about two feet and extended back to a stone wall, and on the easterly side a bank rose from 20 to 22 inches, but at one place for about nine feet the bank is only six inches high on the easterly side and rises abruptly, so that a team could only push a wagon over it by driving or backing directly across the road. There was a precipitous descent opposite the nine feet; but the road was substantially straight for some distance on either side thereof. The wagon in which plaintiff was riding in the night time backed over the rise in the road at the latter point and injured her. Held, that it could not be foreseen that any one would drive so as to make it possible to back over the bank, so that the town was not negligent for so constructing the road.—New York Supreme Court, 118 N. Y. S., 657.

Water Company—Tax to Support Municipal Water Works

Talcott, Village President, Lyons Falls, vs. Beauty Spring Water Co.—A village applied to the State Water Supply Commission for approval of plans for municipal water works, stating therein that the village would purchase at a fair price the existing water works system of defendant company. The application was granted, but the proposition to purchase defendant's plant was lost on submission to the voters. The supply furnished by defendant company had been inadequate for fire and household purposes, and had entirely failed in parts of the village. A part of the village tax was levied to maintain the municipal water system, and defendant objected to the levy of any part thereof against its property in the village, claiming that such tax would discriminate in favor of the municipal water plant. Held that, as the village had jurisdiction of defendant's property, the tax was not void, and defendant could not resist payment thereof on a motion to vacate an order in aid of the collection of the tax; its remedy being by a direct action, if it had any legal grievance because of the construction of the municipal water works without purchasing its plant.—New York Supreme Court, 118 N. Y. S., 659.

Blasting Within City Limits

Pacific States Supply Co. vs. City and County of San Francisco et al.—A city ordinance, prohibiting the maintaining or operating of a stone quarry within the city limits, is invalid as an attempt to prohibit, rather than regulate, a legitimate business. Where a thing to be regulated by a city ordinance is of a character either inherently or by reason of its use calculated to endanger the health, safety, comfort, or welfare of the public, and the conditions and circumstances under which the danger arises are not susceptible of being foreseen and made the subject of uniform prescription and limitations, an ordinance regulating the same is not invalid for failure to prescribe such uniform limitations and prescriptions and leaving them to the discretionary determination of an appropriate board or officer. While blasting is not so inherently dangerous as to constitute a nuisance per se, its regulation within the limits of a populous city was nevertheless within the city's police power, and hence a city ordinance, prohibiting blasting within certain portions of the city, except under a permit to be granted by the board of supervisors, was a valid exercise of such power. Where city authorities arbitrarily refused to grant complainant a blasting permit under a valid city ordinance prohibiting blasting in a city without such permit, complainant's remedy was at law to compel the issuing of a permit, if the facts warranted it, and not in equity to restrain the city authorities from enforcing the ordinance.—United States Circuit Court, 171 F. R., 727.

School Taxes

City of Louisville vs. Commonwealth.—The maintenance of a public school being a public duty of the state, and not purely a municipal purpose, Act March 24, 1908, requiring a minimum school tax rate of 36 mills for cities of the second class, was not in violation of Constitution, providing that the General Assembly shall not impose taxes for the purpose of any municipal corporation, but may by general laws confer on the proper authorities thereof power to assess and collect taxes. The schools of a city, including high schools, are a part of the state's school system, and their trustees are "officers of the state." Laws 1908, providing a minimum school tax rate of 36 mills for cities of the second class, is not in violation of Constitution prohibiting the passage of local or special acts to authorize or regulate taxation. For purposes of legislation, cities may be classified according to population, though a class may embrace but one city. Laws 1908, requiring a minimum school tax rate in cities of the second class of 36 mills, does not violate Constitution requiring that taxes shall be uniform and assessed against the property within the territorial limits of the authority assessing the tax, since the city, and not the State, must be regarded as the agency assessing the tax; the tax being uniform as to the city. Laws 1908, requiring a minimum school tax rate in cities of the second class, is not unconstitutional as a violation of the spirit of local self-government.—Court of Appeals of Kentucky, 121 S. W. R., 411.

NEWS OF THE SOCIETIES

Pennsylvania State Firemen's Association.—There were over 1,300 delegates in attendance on the thirteenth annual convention at Oil City, October 5-8, this being the largest association of the kind in the world, with a membership of 1,520 and a constituency of 100,000. William H. Long, of Hanover, who has been Chief of the Department at that place for 25 years, was elected President of the Association to succeed Thomas E. Jones, of Pittsburg, without opposition. Vice-Presidents were elected as follows: George F. Weir of Sharpsburg, Jefferson Shaner of West Chester, H. K. Free of York and E. W. Hay of Scranton; Recording Secretary, W. W. Under of Reading; Corresponding Secretary, James A. Green of Carlisle; Treasurer, A. L. Reichenbach of Allentown; chaplain, Rev. S. Russel Downie of Bath. Harrisburg opposed Altoona for the next convention, receiving 404 votes against 901 for Altoona. Mayor B. H. Carnahan extended the courtesies of the city. Chief W. H. Long of Hanover, read a paper on "Relations Between Paid and Volunteer Departments," and Irvine A. Halme of Lock Haven, urged the organization and maintenance of relief associations. The constitution was amended to provide death benefits of \$85 instead of \$75 and a \$5 floral emblem, as at present. The report of the Treasurer showed the organization in a prosperous condition, with a permanent fund of \$9,200 invested in bonds and mortgages. A resolution requesting the Legislature to provide a State Fire Marshal and Deputies was referred to the Law Committee for a report next year. Various forms of entertainments were provided by a citizens committee, perhaps the most unique being afforded them when an oil well, located on a hill overlooking the city was "shot" with 60 quarts of nitroglycerin. Three thousand firemen participated in the annual parade, and were the guests of the local firemen at Memorial Park. An industrial parade and exhibition of fire apparatus was also a feature of the gathering. The decorations and electrical displays during the gathering were magnificent.

City and County Health Officers of Texas.—At the conference, Austin, October 7-8, among other papers, one was read by Dr. W. H. Blythe of Mount Pleasant, on "The Tribulations and Frailties of the County Health Officer." It dealt with the apathy of local authorities and the absence of appreciation among the people concerning the work of enforcing health laws. A resolution was passed calling upon Governor T. M. Campbell to enforce the terms of the leper law. Slaughter house rules were discussed and the rules amended so as to require concrete floors. The advisory code was discussed and some recommendations made.

Engineers' Club of Columbus, O.—The need of playgrounds in Columbus, O., was the subject of a discussion at a meeting of the club, October 9. Prof. C. P. Crow, Ohio State University, delivered the report of the committee appointed by the club to consider the report of the beautification committee, appointed two years ago by the Chamber of Commerce. Julian Griggs, former City Engineer, declared that Columbus was woefully behind other cities of the country in the matter of playgrounds. The discussion will be continued at further meetings before action is taken.

Appalachian Good Roads Association.—A meeting at Asheville, N. C., Oct. 5-7, for the promotion of the movement for a system of highways in the Southern Appalachian Mountains resulted in the organization of the Southern Appalachian Good Roads Association, with Dr. Joseph Hyde Pratt, State Geologist of North Carolina, as President; W. L. Spoon of the North Carolina Highway Commission, as Secretary, and Joseph G. Brown of North Carolina, Treasurer. There were 3,000 in attendance, including State Geologists and County Commissioners and others interested in good roads in the mountainous sections of the five States of Virginia, North Carolina, South Carolina, Georgia, and Tennessee. Gov. Kitchin, of North Carolina, in introducing the delegates said: "There is no magical way of getting good roads, and the people must go down into their pockets and bear the expenses, if they want them." He added that the question of good roads was not a new one; that the Romans had built good roads that have lasted for more than 1,000 years. He said that the Romans appreciated the value of good highways, not only for purposes of war, but for the development of commerce. W. J. Cocke welcomed the delegates on behalf of the city.

Dr. Pratt, in opening the congress, said the purpose of the gathering was to devise ways and means for building 500 miles of good roads in the Appalachian Mountains, with connecting links leading to South Carolina, Georgia, Tennessee and Virginia.

Col. D. Cameron, President of the National Agricultural Society, spoke on the subject of "Federal Aid to Post-roads." W. S. McCallie, State Geologist of Georgia, told of the work in that State and said the outlook was very bright, especially in the counties where convict labor is used. But the real problem, he said, is in the eleven mountain counties which have done but little, and where the taxable property is small compared with the mileage of roads. Links of the proposed system to the Piedmont section of Georgia will pass through this section and greatly stimulate interest. Governor Joseph M. Brown, who was to have responded to the addresses of welcome, was prevented from attending, and F. H. Hyatt, President of the South Carolina Good Roads Association, responded in his stead.

G. Grosvenor Davie, Managing Director of the Southern Commercial Congress, delivered an address, as did also Henry A. Brown, President of the East Tennessee Good Roads Association; M. L. Shipman, Commissioner of Labor and Printing of State, and Professor W. C. Riddick, of North Carolina. A reception was given to delegates at the Battery Park Hotel.

Massachusetts Reform Club.—At a meeting, October 9, Boston's two charter revision plans were the subject of discussion. Former Finance Commissioner George A. O. Ernst, George R. Nutter and Robert Homans were the advocates of Plan No. 2, and Alderman Matthew Hale of Ward 11 championed the cause of Plan No. 1.

West Side Improvement Club of Youngstown, O.—At a meeting, October 8, Chief of Police William W. McDowell spoke on the organization and needs of the Police Department. Mayor Craver delivered an address on city improvement and City Engineer Frank M. Lillie outlined the needs of a sewerage system for the Briar Hill district.

American Public Health Association.—Many municipalities are represented by delegates at the annual meeting of the American Public Health Association, being held in Richmond, Va., October 19-22, and the names of well-known physicians and specialists appear on the programme. Health Officer W. C. Woodward, of Washington, D. C., is in attendance at the meetings. He is chairman of the committee of seven which has charge of the affairs of the association between the annual meetings, and he presided over a session of this committee on the day before convention began. Dr. Woodward is also scheduled to make a report to the association, as chairman of the section of municipal health officers. The programme indicates that Dr. Cressy L. Wilbur, Washington, will speak on "The Second Decennial Revision of International Classification of Causes of Death." Dr. John F. Anderson, also of Washington, will read a paper on "Results of the Federal Control of Viruses, Serums, Toxins and Analogous Products;" Dr. C. W. Stiles, Washington, will speak on "Certain Factors Explanatory of the Existence of Soil Pollution in the South" before the general session of the convention. At the meeting of the laboratory section Karl F. Kellerman, Washington, is scheduled to speak on "An Analytical and Epidemiological Study of Farm Water Supplies," and Mr. Kellerman and James O. Meadows, Washington, will speak on "The Control of Algae Pollution in the Reservoirs of the Canal Zone." Dr. Anderson will read a paper on "The Influence of Age and Temperature on the Potency of Diphtheria Antitoxin." At the meeting of the section of vital statistics Dr. C. W. Stiles, Washington, will speak on "The Ages of Five Hundred Cases of Hookworm Disease and Frequency of the Disease in the Different Age Groups," Assistant Surgeon General J. W. Trask of the United States Public Health Service will speak on "Smallpox in the United States," Dr. C. L. Wilbur, Washington, will address the delegates on "A Revised Standard Certificate of Death for Use Beginning January 1, 1910," and on "Complete Registration of Births," and Surgeon Frank L. Pleadwell, Washington, will talk on "The Characteristics of Naval Vital Statistics." The speakers come from every section of the country, and the programme calls for about fifty addresses. In the list of officers the programme shows that Maj. Charles F. Mason, U. S. A., is the third vice-president of the association, and Dr. J. J. Kinyoun, Washington, is chairman of the laboratory section.

Hill Street Improvement Club, Waterbury, Conn.—At the annual meeting, October 9, reports were read showing the public improvements secured by the club. The election of officers resulted as follows: President, John Sachsenhauser; vice-president, Henry W. Clark; secretary, Albin H. Swenson; treasurer, Albert Trenke; executive committee, John Sachsenhauser, Charles H. Swenson, William T. Smith, F. E. Lundwall, T. J. Coyle, Albin H. Swenson, Charles D. Byrne and Henry W. Clark. J. Sachsenhauser and A. Swenson were elected delegates to the central committee of improvement societies.

American Water Works Association.—Secretary J. M. Diven has announced that the thirtieth annual convention of the American Water Works Association will be held in New Orleans, La., April 26-30.

Massachusetts Police Association.—Mayor William H. MacInnes presided at the banquet to the Massachusetts Police Association in the Hotel Wendell at Pittsfield on October 13. There were 100 delegates, the City Councils of Pittsfield, Sheriff John Nicholson of Berkshire County and his Deputies, Judge Charles E. Burke of Pittsfield and other prominent guests at the tables. Addresses were made by the Mayor, Sheriff Nicholson, ex-Sheriff H. B. Wellington, Judge Burke, ex-Mayors Charles E. Hibbard, Harry D. Sisson, Allen H. Bagg of Pittsfield, Edward F. Flanagan of Lowell, President of the Association; Lieutenant C. H. Chase of Brockton, the "father of the association," and other officers. The convention of the association was called to order in Central Hall October 12, when the following officers of the association were present: President Edward F. Flanagan, of Lowell; Vice-President Henry T. Ryan, of Haverland; Treasurer Charles H. Chase, of Brockton; Secretary James M. Keaney, of Cambridge; Sergeant-at-Arms Frank W. Tucker, of Chelsea. Executive Committee: John D. Sullivan, of Lawrence; Bernard H. Flaherty, of Fitchburg; James Cash, of Taunton; Patrick H. Wright, of Springfield; Thomas L. McKeeney, of Lynn; Thomas McMurray, of Worcester. Mayor MacInnes of Pittsfield made an address of welcome to the association. The Massachusetts Police Mutual Aid Association, to which the same officers are delegates, also held a meeting.

Street and Interurban Railway Association.—The annual meeting of the Association was held in the new Auditorium, Denver, Col., October 4-8. President James F. Shaw in his address said there were about 1250 street and interurban railways with 35,000 miles of single track and 75,000 passenger cars. The number of passengers carried per year is about 10,000,000,000, and the gross annual income is \$440,000,000. He spoke of the movement in Massachusetts for an increase of fare which he said was just in view of the great improvement in service and the establishment of transfers. Regarding public service commissions the speaker said that reasonable public regulation on the part of the State may prevent repetition of the conditions existing for the past few years in Chicago, Cleveland and some other cities. The following officers were elected: President, F. H. Sinclair, Philadelphia, Pa.; vice-presidents, W. J. Harvie, Syracuse, N. Y.; E. O. Ackerman, Columbus, O.; J. S. Doyle, New York, N. Y.; secretary and treasurer, John W. Corning, Boston, Mass.

Calendar of Meetings

- October 19-22.
American Public Health Association.—Annual convention, Richmond, Va.—Charles O. Probst, Secretary, Columbus, O.
- October 20.
American Gas Institute.—Annual meeting, Detroit, Mich.—A. B. Beadle, Secretary, 29 W. 39th St., New York, N. Y.
- October 26-29.
National Roadmakers' Association.—Annual Convention, Columbus, O.
- October 29-30.
American Electro-Chemical Society.—Annual meeting, New York, N. Y.—Jos. W. Richards, Secretary, South Bethlehem, Pa.
- November 3.
Lakes-to-Gulf Deep Waterway Convention.—Convention, New Orleans, La.
- November 9-11.
American Society of Municipal Improvements.—Annual convention, Little Rock, Ark.—A. Prescott Folwell, Secretary, 241 W. 39th St., New York, N. Y.

November 15-18.

American Civic Association.—Fifth annual convention, Cincinnati, Ohio.

November 15-18.

National Municipal League.—Annual meeting, Cincinnati, O.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

December 3-4.

New Jersey Sanitary Association.—Annual meeting, Lakewood, N. J.—J. A. Exton, Secretary, 75 Beach st., Arlington, N. J.

PERSONALS

ALLENBACH, HENRY D., Trappe, Pa., has been elected City Treasurer to succeed Daniel Reiner.

ARMSTRONG, GEORGE W., Spokane, Wash., has succeeded Carl W. Tuerke as Commissioner of Streets and President of the Board of Police Commissioners.

BLANCHARD, Prof. ARTHUR H., Providence, R. I., Deputy Engineer, State Board of Public Roads of Rhode Island, and Associate Professor of Civil Engineering at Brown University, sailed on Oct. 13 for a tour of eight months, which will be devoted to an investigation of the construction and maintenance of bituminous macadam roads in France, England and Scotland.

BRUNDAGE, LEEMAN, South Norwalk, Conn., has been elected Mayor.

DE BRUNE, JESSE C., Barre, Vt., has been appointed Superintendent of Streets.

HEIM, JOHN B., Madison, Wis., has been re-elected Superintendent of the Water Works. E. B. Steensland and O. S. Norsman succeed themselves as President and Secretary, respectively.

HOTCHKISS, WILLIAM B., Waterbury, Conn., has been elected Mayor over Francis T. Reeves.

HUNT, ALBERT F., Newburyport, Mass., has withdrawn his resignation as Mayor.

KESSINGER, ALBERT R., Rome, N. Y., twice elected Mayor on the Democratic ticket, has been unanimously renominated for a third term by both Republican and Democratic city conventions.

KELSEY, LOUIS C., Salt Lake City, Utah, City Engineer, has resigned.

KOMMER, J. R., Milwaukee, Wis., has been retained by the city of Wheeling, W. Va., to design and superintend the construction of a new water works pumping station.

MAHAN, BRYAN F., New London, Conn., has been elected Mayor.

MARKS, WILLIAM D., New York, N. Y., has been appointed Consulting Gas Engineer by Mayor J. C. Haynes, Minneapolis, Minn.

MCCAREY, EDWARD, Chester, Pa., has been appointed Chief of Police.

MCCREADY, JAMES, Indianapolis, Ind., who was Mayor of Indianapolis half a century ago, died October 9.

MCDONNELL, R. E., Kansas City, Mo., of Burns & McDonnell, has returned to that city from a three months' investigation of sewerage and sewage purification works in Germany, France, England and Scotland.

PENNINGTON, S. B., Chester, Pa., Chief of Police, has resigned.

RICE, FRANK J., New Haven, Conn., has been elected Mayor over Mayor Frank J. Martin.

VALENTINE, A. L., Seattle, Wash., has been appointed Superintendent of Public Utilities.

WEST, HENRY L., Washington, D. C., District Commissioner, and Jas. M. Wood, Superintendent of Street Cleaning, will visit Milwaukee, Wis., and other cities to study garbage disposal.

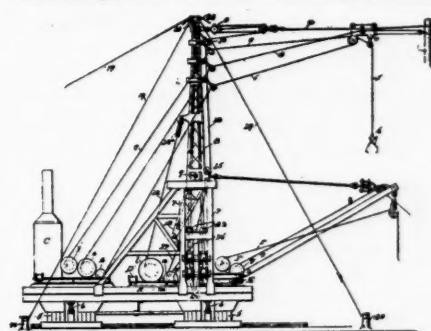
WICKLINE, GEORGE G., Dallas, Tex., has been appointed Assistant Engineer of Dallas County.

WILSON, JOHN FARMER, North Plainfield, N. J., formerly Mayor, died Oct. 10.

PATENT CLAIMS

936,425. PORTABLE CABLEWAY. Joseph H. Dickinson, Montclair, N. J. Serial No. 422,949.

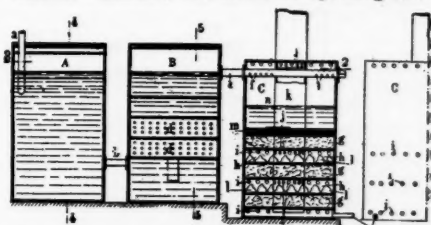
The combination with a portable platform adapted to straddle a track in a man-



ner to permit the passage of cars therebeneath, a tower carried by the platform, a cableway in supported engagement with said tower, and a loading device carried by the portable frame.

936,464. APPARATUS FOR THE BACTERIOLOGICAL TREATMENT OF SEWAGE AND THE LIKE. Gustave A. Lucas, Levallois-Perret, France. Serial No. 361,735.

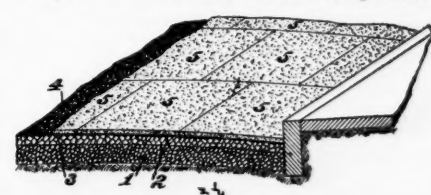
An apparatus for the bacteriological treatment of sewage comprising in combination an anaerobic chamber and an oxidation chamber, the latter comprising sev-



eral filtering beds, empty spaces separating these filtering beds the ones from the others, orifices provided in the vertical walls of the apparatus, at the upper level of each of these empty spaces, a central chimney starting from the bottom of the apparatus, passing through the filtering beds and the empty spaces ending to the atmosphere and having orifices provided at the same level as the preceding orifices.

936,493. PAVEMENT AND PROCESS FOR MAKING THE SAME. James C. Travilla, St. Louis, Mo. Serial No. 461,051.

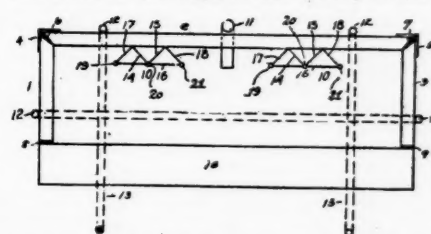
A pavement consisting of a substructure, a layer of malleable slabs compressed



thereon, and a coat of bituminous cement between them, said substructure comprising a base of macadam, a layer of coarse macadam thereon, and sand and stone screenings partially filling the interstices of said coarser layer.

936,638. BUILDING CONCRETE WORK IN THE WATER. Edward H. Kirk, near Belle Center, Ohio. Serial No. 451,131.

In apparatus for building concrete walls in water, the combination with a section of wall built at the edge of the water, of the



three-sided, hinged frame, having its lower edges sharpened to drive in the ground, the impervious, compressible corner and face cushions, 6, 7, 8, 9, the top tightening chains for drawing the form against the face of the wall, and the collapsible pockets, as and for the purpose set forth.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STREET IMPROVEMENTS

Illinois.....	Chicago.....	Oct. 22.....	Constructing cement sidewalks in number of streets.....	C. A. V. Standish, Sec'y Bd. Loc. Imp
Florida.....	Jacksonville.....	Oct. 22.....	Oiling rock road north of city.....	Bd. Commissioners of Duval County.
Ohio.....	Ashland.....	Oct. 23, 1 p.m.....	Grading and graveling Jeromeville and Hayesville road.....	David Fickes, Clk., Trus. Mohican Tp
Ohio.....	Marysville.....	Oct. 23.....	Bldg. road, Liberty township, near Raymond.....	Dwight B. Edwards, County Auditor.
Ohio.....	Cheviot.....	Oct. 25, noon.....	Macadamizing, grading, cement curb and gutter, Trevor ave.....	Charles Cray, Village Clerk.
California.....	Oakland.....	Oct. 25.....	Macadamizing, grading, curb, gutter, Patterson ave., \$3,700.....	County Surveyor Haviland.
Ohio.....	Orrville.....	Oct. 25, noon.....	Improving Walnut street.....	A. L. Reed, Village Clerk.
Pennsylvania.....	Pittsburg.....	Oct. 26, noon.....	Bldg. 3 brick roads, .9 mile, \$7,500 bond; 4.12 miles, \$30,000 bond; 4.04 miles, \$30,000 bond; brick or concrete, 1.8 miles, \$15,000 bond; macadam, .9 mile, \$1,000 bond.....	
Ohio.....	Newark.....	Oct. 26.....	Brick paving, 5,685 sq. yds.; curb, 4,770 lin. ft., Pine street.....	R. J. Cunningham, County Auditor.
Rhode Island.....	Tiverton.....	Oct. 27, noon.....	Bldg. 6 sections State road: four 1-mile sections, one 7-mile and one 2-mile in various towns.....	C. H. Wells, City Engineer.
Virginia.....	Ft. Myer Hts.....	Oct. 27, noon.....	Paving, curbing, and grading upper King st., Alexandria.....	J. H. Edwards, Chm. State B.P. Rds.
Ohio.....	Cleveland.....	Oct. 27, noon.....	Brick paving, 1,000 lin. ft. E. 86th st., also other streets.....	Geo. E. Garrett, County Engineer.
New York.....	Brooklyn.....	Oct. 27, 11 a.m.....	Regulating, grading and paving various streets.....	W. J. Springborn, Pres. Bd. Pub. Serv.
Colorado.....	Ft. Rosecrans.....	Oct. 27, noon.....	Bldg. 3 miles macadam roads, culverts, gutters, etc.....	Bird S. Coler, Borough President.
Ohio.....	Steubenville.....	Oct. 27, noon.....	Grading, sewerage, macadamizing 7 sections of road.....	Lt. C. A. Lohr, Constr. Q. M.
New Jersey.....	Hoboken.....	Oct. 27.....	Asphalt paving portions of 3d, 5th and 7th streets.....	J. F. Vermillion, Chm. Co. Comrs.
Ontario.....	Berlin.....	Oct. 28.....	Brick, asphalt or other pavement on King street.....	James H. Londrigan, City Clerk.
New York.....	Brooklyn.....	Oct. 28, 3 p.m.....	Regulating, grading and paving or repaving with asphalt on concrete Parkside avenue, and other work.....	A. H. Millar, Town Clerk.
Idaho.....	Caldwell.....	Oct. 29.....	Paving 30 blocks with bitulithic; cost \$127,000.....	Henry Smith, President Park Board.
Kentucky.....	Ashland.....	Oct. 30, 7 p.m.....	Brick or bitulithic paving, 34,500 sq. yds.; comb. cement curb and gutter, 21,700 lin. ft.; contract R.....	F. H. Richardson, C.E., care City Clk.
Indiana.....	Kentland.....	Nov. 1, 1 p.m.....	Constructing 2 macadam roads in Grant township.....	E. A. Shepard, City Clerk.
Indiana.....	Marion.....	Nov. 1.....	Bldg. Monroe Center gravel road, 3 miles long.....	E. R. Bringham, County Auditor.
Indiana.....	Williamsport.....	Nov. 1, 1 p.m.....	Constructing gravel road in Mound township.....	A. G. Stout, County Auditor.
Indiana.....	Brazil.....	Nov. 2, 11:30 a.m.....	Constructing 7,900 ft. gravel road in Dick Johnson township.....	Robert L. Winks, County Auditor.
Indiana.....	Paoli.....	Nov. 2, 2 p.m.....	Constructing 2 gravel roads 18,240 ft. long in Greenfield twp.....	J. L. Burns, County Auditor.
Indiana.....	Fowler.....	Nov. 4, 1 p.m.....	Bldg. stone road on County line; cost, \$12,590.....	Alvin B. Ham, County Auditor.
Iowa.....	Jefferson.....	Nov. 9, 8 p.m.....	Graveling 8 ft. width, 8-in. thick on Adams street.....	Lemuel Shipman, County Auditor.
				B. S. McCulby, City Clerk.

SEWERAGE

Minnesota.....	Shakopee.....	Oct. 23, 8 p.m.....	Bldg. 6,000 ft. 8, 10 and 15-in. sewer, 6 x 12 ft. deep.....	Alex. Schaefer, City Recorder.
Kansas.....	Wichita.....	Oct. 25, 9 a.m.....	Bldg. sanitary sewer No. 12; also lateral extensions.....	Bert C. Wells, City Engineer.
West Virginia.....	Huntington.....	Oct. 25, 2 p.m.....	Bldg. 12-in. lateral sewer in Railroad ave. First Ward.....	John Coon, Comr. Sts. & Sewers
Nebraska.....	Omaha.....	Oct. 25, 2 p.m.....	Bldg. 12 and 8-in. pipe sewers in Dist. 396; 24 and 18-in. in District 399.....	George W. Craig, City Engineer.
Indiana.....	Cayuga.....	Oct. 25.....	Constructing a sewer in Division street.....	H. McDaniel, Town Clerk.
Oklahoma.....	Oklahoma City.....	Oct. 25.....	Constructing sanitary main sewer.....	Bob Parman, City Clerk.
New York.....	Brooklyn.....	Oct. 27, 11 a.m.....	Bldg. temporary sewer for new Coney Island Hospital.....	Bird S. Coler, Borough President.
Ohio.....	Sandusky.....	Oct. 27.....	Bldg. 3,500 ft. 8-in. double strength vit. pipe storm and san. sewer.....	A. H. Stutz, Village Clerk.
Ohio.....	Steubenville.....	Oct. 29, noon.....	Sewering, grading, macadamizing Bloomfield & Smithfield pike.....	Board County Commissioners.
Utah.....	Salt Lake City.....	Oct. 29.....	Bldg. pipe sewers in Iowa ave., Sewer Exten. No. 236.....	H. G. McMillin, Chm. Bd. Pub. Wks.
New York.....	Buffalo.....	Oct. 30.....	Removing existing trunk sewer outlet and bldg. new one under Black Rock Harbor and Channel, near Albany st.; \$150,000.....	F. G. Ward, Comr. Pub. Wks.
Minnesota.....	Brainerd.....	Nov. 1, 8 p.m.....	Bldg. lateral sewer L, in Sewer District No. 1.....	R. N. Roderick, City Clerk.
West Virginia.....	Huntington.....	Nov. 1, 2 p.m.....	Bldg. 12-in. tile sewer in alley, bet. Wash. and Adams aves.....	John Coon, Comr. Sts. & Sewers.
Ohio.....	Cleveland Hts.....	Nov. 2, noon.....	Bldg. sanitary sewers 770 ft. along Warrensel C. and V. road.....	Wm. G. Phare, Village Clerk.
Tennessee.....	Chattanooga.....	Nov. 2, 2:30 p.m.....	Bldg. \$100,000 Chattanooga Creek intercepting sewer system, inc. 1,800 ft. 20-in., 1,865 ft. 24-in.; 4,680 ft. 36-in., 3 sewer bridges over creek, 7 manholes, max. cut, 32 ft., solid rock excav., 200 cu. yds.....	
Wyoming.....	Ft. D. A. Russel.....	Nov. 5.....	Bldg. independent outlet for sewer system, 9,432 ft. 12-in. sewer pipe and 26 manholes.....	H. F. Van Dusen, Chm. Bd. Pub. Wks.
Ontario.....	Toronto.....	Nov. 16, noon.....	Furn. 3,000 ft. 60-in. riveted steel pipe, 500 ft. riveted tapered steel pipe, 1,782 ft. 60-in. rein. concrete pipe for outfall sewer.....	Capt. V. K. Hart, Constr. Q. M.
				Joseph Oliver, Mayor.

WATER SUPPLY

South Carolina.....	Ft. Moultrie.....	Oct. 23.....	Bldg. 7 reinforced concrete cisterns.....	Constructing Quartermaster.
Colorado.....	Cortez.....	Oct. 23.....	Sinking an artesian well at or near Cortez.....	C. W. Comstock, State Engr., Denver
California.....	Colusa.....	Oct. 25, 8 p.m.....	Furn. and constructing water works system.....	A. B. Jackson, Clk. Bd. Trus.
Oklahoma.....	Wetumka.....	Oct. 27, 8 p.m.....	Furn. material for w. w. and light plant, inc. tank and tower, 8, 6 and 4-in. c. i. water pipe, valves and hydrants, pumps, generator, etc.....	
New York.....	New York.....	Oct. 27, 11 a.m.....	Furn. and install four 48-in. controlling valves with expansion pieces, operating mechanism, etc., at tower gate chamber of Ashokan reservoir, near Brown Station, Olive, N. Y.....	Federal Eng. & Constr. Co., Okmulgee
South Dakota.....	Rapid City.....	Oct. 28, 2 p.m.....	Bldg. complete gravity water system at Indian School.....	W. A. Benschel, Pres. Bd. Wtr. Supply.
Ontario.....	Toronto.....	Oct. 28, noon.....	Furn. turbine pumps; four 13,500,000-gal., 100 lbs. pressure; two 5,000,000-gal., 300 lbs.; two 10,000,000-gal., 65 lbs. and two 110 lbs.; two 6,500,000-gal., 90 lbs. and two 160 lbs.; two 1,500,000-gal., 65 lbs. and two 110 lbs. pres.; also valves, piping, bed-plates, couplings, etc.....	Comr. Indian Affrs., Wash., D. C.
Wyoming.....	Casper.....	Oct. 28, 2 p.m.....	Bldg. Pathfinder dike, 45 miles s.w.; 160,000 cu. yds. excav.; 8,000 cu. yds. pavement; 2,000 cu. yds. concrete masonry.....	Joseph Oliver, Mayor.
Alabama.....	Ft. Morgan.....	Oct. 29, 1:30 p.m.....	Constructing 8 cypress cisterns at fort.....	U. S. Reclam. Serv., Denver, Col.
Nebraska.....	Nelson.....	Oct. 29, 8 p.m.....	Material and labor for bldg. w. w., inc. trenching and laying 25,000 ft. c. i. pipe, 35 fire hydrants, 20 valves and boxes, 100,000-gal. elevated tank, 50 k.w. a.c. generator, engine, dir. con.; 2 marble switchboards, etc.; steam boiler, etc.; feed water heating centrifugal pump and motor.....	Capt. H. B. Chamberlain, Constr. Q. M.
Massachusetts.....	Hingham.....	Oct. 30, 11 a.m.....	Bldg. fresh water system at U. S. Naval Magazine.....	
Mississippi.....	Benoit.....	Nov. 2.....	Drilling artesian well.....	S. A. Lapp, Mayor.
Pennsylvania.....	Philadelphia.....	Nov. 4.....	Converting Queen Lane pumping station into a filtration plant, equipment to cost \$65,000, inc. two 2,000,000-gal. pumps, for sand washing, two 5,000,000-gal. centrifugal pumps, for washing filter beds, 2 electric light generators, four 100-h.p. boilers, coal handling plant, with traveling crane, etc.; total, \$2,000,000.....	Bur. Yds. & Docks, Navy Dept., Washington, D. C.
Pennsylvania.....	Titusville.....	Nov. 4.....	Furn. 1,500 ft. 6-in. c. i. pipe; also 3-way fire hydrant, etc.....	M. M. Thompson, Mayor.
				Dept. of Pubic Works.
				Water and Light Commissioner.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
WATER SUPPLY—Continued				
Nebraska	Belden	Nov. 4, noon	Bldg. \$8,000 w. w., inc. 4, 6 and 8-in. c. i. pipe, valves, hydrants, etc.; 12 x 60 ft. steel standpipe, frame pump, sta., gasoline engine, triplex deep well pump, brick-lined well; Arnold C. K. Eng. C.E., Bee Bldg., Omaha.	F. B. Barber, Village Clerk. Bur. Yds. and D. cks, Navy Dept. Washington, D. C.
Florida	Key West	Nov. 6, 11 a.m.	Bldg. \$25,000 concrete cistern at Naval Station.	Constructing Quartermaster.
Florida	Ft. Dade	Nov. 9	Bldg. 3,500 ft. extension of water main.	J. B. Winslett, City Secretary.
Texas	Dallas	Nov. 10, 3 p.m.	Furn. and instal. 15,000,000-gal. pumping engine of vertical triple expansion, cond. crank and fly wheel self-cont. type.	
BRIDGES				
Rhode Island	Pawtucket	Oct. 23	Bldg. No. Main st. bridge to Central Falls; \$5,000 appropriation.	James A. Carpenter, City Engineer. Board of County Commissioners.
Indiana	Tipton	Oct. 23, 1 p.m.	Repairing bridge over Hanshaw Ditch, near Hobbs.	G. B. Huntington, County Auditor.
Indiana	Shelbyville	Oct. 23, 10 a.m.	Constructing a reinforced concrete culvert.	W. R. Green, County Clerk.
Kansas	Lawrence	Oct. 23, noon	Furn. steel and bldg. bridge over Rock Creek in Tp. 14, R. 17.	Roy Cope, Co. Aud. St. Clair St.
Ohio	Flushing	Oct. 25, 1 p.m.	Bldg. concrete superstructure for Buttermilk Bridge No. 2.	
Brit. Columbia	Vancouver	Oct. 25, 4 p.m.	Bldg. bridge over False Creek, bet. Bridge and Beatty sts.; 3,375 ft. long, with 264-ft. elec. op. swing span on concrete piers, 66 deck plate girder spans, 35 to 80 ft. long, on steel bents on concrete pedestals; approaches, 150 ft. long; roadway, 44 ft. wide; creos. wood floor; two 6-ft. walks.	Mayor and City Council. County Surveyor McMillan. P. C. Williams, Supt. Pub. Wks., Albany
California	San Jose	Oct. 25	Bldg. rein. concrete and wood bridge and 2 box concrete culverts.	Wm. F. Black, County Clerk.
New York	Utica	Oct. 26, noon	Bldg. \$15,500 lift bridge over Erie Canal at Seneca street.	F. G. Richardson, Clk. Shellmouth.
Ohio	Cleveland	Oct. 27, 11 a.m.	Bldg. concrete culvert Centre road, Rocky River township.	Henry Smith, Pres. Park Board.
Manitoba	Assessippi	Oct. 27	Bldg. steel bridge over Assiniboine river.	F. J. Griffith, City Sec'y-Treas.
New York	Brooklyn	Oct. 28, 3 p.m.	Bldg. bridge at Shore road and First avenue.	
Quebec	Sherbrooke	Oct. 30, 1 p.m.	Bldg. steel bridge over Magog river.	
Ohio	Bucyrus	Oct. 30, noon	Bldg. stone substructure; also 120 ft. superstructure, with 7 panels, of 16 ft. 10 1/4 in. each, 20 ft. roadway, concrete floor and two 8-ft. walks; live load, 300 lbs. per lin. ft.; also 77.5 ft. and 90 ft. spans of Kleinknecht & Albright bridges.	J. I. Smith, County Auditor.
Virginia	King William	Nov. 1, noon	Plans and proposals for bldg. steel bridge over Harrison Creek; 38 ft. long, 12 ft. inside width, 7 ft. above bed of creek, white oak floor, 2 inches thick.	B. C. Garrett, Clk. Co. Supervisors.
Kansas	Leavenworth	Nov. 1, noon	Bldg. rein. concrete abutment and replacing bridge No. 275; repairing 2 abuts. and bldg. 42-ft. span bridge with concrete floor; bldg. 6 x 8 rein. concrete arched culvert.	J. W. Nicholas, County Clerk. J. L. Burns, County Auditor.
Indiana	Brazil	Nov. 1, 11:30 a.m.	Constructing a reinforced concrete bridge.	T. L. Thomas, County Auditor.
Indiana	Vernon	Nov. 1, 11 a.m.	Bldg. 3-arch stone bridge at Edwards Ford.	John H. Resser, County Engineer.
Missouri	Galena	Nov. 1	Bldg. bridge over James river, Sec. 7, Twp. 24, Range 23.	
Louisiana	Tallulah	Nov. 3	Bldg. bridge over Roundaway Bay; 140 ft. long, 16 ft. wide, with 60-ft. span; approaches to be filled.	A. L. Slack, Sec'y Police Jury.
Pennsylvania	Reading	Nov. 4, 10 a.m.	Bldg. 1-span steel truss bridge over Tulpehocton creek; also concrete abutments and wing walks, inc. 290 cu. yds. concrete above foundation line and 250 cu. yds. below.	A. L. Rhodes, County Auditor. Lemuel Shipman, County Auditor.
Indiana	Fowler	Nov. 4, 1 p.m.	Bridging, draining, etc., C. J. Fox stone road; cost, \$12,590.	Wm. E. Thomas, Clk. County Superv.
Arizona	Phoenix	Nov. 6, 2 p.m.	Bldg. \$100,000 rein. concrete bridge over Salt river at Center st.	Board of County Commissioners.
Ohio	Eaton	Nov. 6, noon	Constructing 4 new bridges.	J. W. Flenniken, Chm. Bd. Pub. Wks.
Tennessee	Knoxville	Nov. 8, 10 a.m.	Bldg. rein. girder viaduct at Asylum ave. with approach.	Town Commissioners.
Illinois	Batavia	Nov. 29	Building steel bridge over Mahanoy Creek.	
LIGHTING AND POWER				
South Carolina	Columbia	Oct. 25	Lighting streets of city; S. L. Sweeney, Chm. Lt. Com.	G. F. Cooper, City Clerk.
Utah	Fort Douglas	Oct. 26, 10 a.m.	Constructing electric lighting system complete.	Lt. K. P. Williams, Act. Q. M.
Oklahoma	Wetumka	Oct. 27, 8 p.m.	Furn. f.o.b. Wetumka material for light and water plant, inc. 2 boilers, engine, feed water heaters, steam fire pump, elec. a.c. generator, elec. driven pump and motor, 3 miles of pole line, arc lamps, etc.	Federal Eng. & Constr. Co., Okmulgee. G. U. Marvin, Sec'y-Treas. State Pen.
Ohio	Columbus	Oct. 27, noon	Bldg. brick power house at State Penitentiary.	
Ontario	Toronto	Oct. 28, noon	Furn. four 1,500 four 500 and two 225 h.p. synchronous motors; also two 1,500 and four 500 h.p. induction motors, with exciters, switchboards, connecting material, etc.	C. H. Rust, City Engineer. Bd. Trus., care Dr. Geo. S. Bliss, Supt.
Maine	West Pownal	Oct. 28, noon	Bldg. brick power station for School for Feeble Minded.	J. M. Harris, City Clerk.
Mississippi	Ackerman	Nov. 2	Bldg. \$35,000 elec. light plant; X. A. Kramer, C.E., Magnolia.	Frank L. Hewitt, City Clerk.
New Jersey	Bridgeton	Nov. 2	Lighting city for 5 years from December, 1909.	Board of Supervisors.
California	Chico	Nov. 2	Purchase of franchise for elec. distributing system.	County Board of Supervisors.
California	San Bernardino	Nov. 2	Franchise for overhead transmission lines in county.	
New Jersey	Orange	Nov. 8	Bldg. city light plant; revised plans, etc.; separate bids for generating plant and distributing system; 65 miles of wire, 368 arc and 95 Tungsten lamps; 8 switchboard sections; Runyon & Carey, Engineers.	Arthur B. Seymour, Mayor. E. D. Richardson, Chm. Com. Elec.
Virginia	Richmond	Nov. 8	Condensers, piping, pumps and heaters for city light plant.	
Georgia	Savannah	Nov. 8	Illumination by 610 electric arc, also incandescent, lamps of city streets, and for sale to city of electric current for illumination, heat or power.	Harry Willink, Dir. of Pub. Wks. Constr. Q. M., U. S. A.
Delaware	Ft. Dupont	Nov. 9, 11 a.m.	Bldg. electric lighting system, machinery, at fort.	
MISCELLANEOUS				
Illinois	Chicago	Oct. 27, 11 a.m.	Furn. and install metallic furniture in City Hall.	John J. Hanberg, Dir. Pub. Wks.
Kentucky	Newport	Oct. 28, noon	For 20-year telephone and telegraph franchise.	John W. Davis, City Clerk.
Pennsylvania	New Brighton	Nov. 1, 7 p.m.	Furnishing hook and ladder truck.	F. C. O'Rourke, Sec'y Boro. Council.
Manitoba	Winnipeg	Nov. 1, 11 a.m.	Furn. motor hose wagon, to carry 2,000 ft. 2.5-in. cotton rubber-lined fire hose and six men.	M. Peterson, Sec'y Bd. of Control.

STREET IMPROVEMENTS

Birmingham, Ala.—Council has taken first steps toward construction and equipment of plant by means of which city can do its own paving.

Birmingham, Ala.—Bids have been advertised for paving 1st ave.; improvement of five streets is being considered.

Birmingham, Ala.—Three members of Jefferson County Board of Revenue, President Job Goling, R. F. Lovelady and J. E. Hagler, went to Atlanta to investigate use of new system of road construction.

Ensley, Ala.—Council is considering paving of E st.—V. E. Ohl, City Engineer.

Huntsville, Ala.—Council has decided to pave Church, Eustis and Clinton sts.

Tuscaloosa, Ala.—Council has passed ordinance requiring cement sidewalks entire length of 8th st.

Heber, Ark.—City is considering construction of two miles concrete sidewalks.

Jonesboro, Ark.—Wm. J. Park, Pine Bluff, has prepared plans for proposed paving.

ing.—Henry H. Houghton, Secretary Paving Commission.

Little Rock, Ark.—Superintendent of Public Works E. A. Kingsley has estimated cost of paving 14th st. with macadam and constructing curbs and gutters at \$30,402.

Little Rock, Ark.—Proposed Louisiana st. Improvement District will add about 20,000 sq. yds. to paved district of this city.—E. A. Kingsley, City Engineer.

Colusa, Cal.—Citizens will vote on \$500,000 bonds for building roads through county.

Long Beach, Cal.—Board of Public Works is preparing ordinances providing for about nine miles more of paving within city limits of Long Beach, work having been petitioned for by property owners; asphalt, crushed rock and oil macadam are the materials to be used.

North Pasadena, Cal.—Citizens are urging improvement of North Lincoln ave.

North Pasadena, Cal.—North Lincoln avenue City and County Improvement Association has decided to ask city to improve

Montana st. from Fair Oaks ave. to Lincoln ave.

Oakland, Cal.—Residents of College ave. have petitioned for paving of that thoroughfare.

Pasadena, Cal.—Council has decided to improve Arroyo Drive.—S. J. Van Ornum, City Engineer.

Red Bluff, Cal.—Board of County Supervisors has ordered bids advertised for construction of road from Thomas Creek to Henleyville and Teluma rd.

Redwood City, Cal.—Petition has been presented to Board of Supervisors asking that Highway Commission be appointed, and that steps be taken to call election on \$1,000,000 bonds or more to completely reconstruct county highways and to build other new roads.

Sacramento, Cal.—Before Board of Supervisors will take action on request to macadamize P st. road from 31st st. to State Fair Grounds, matter will be taken up with city authorities, State Agricultural Society and Good Roads Advisory Commit-

- tee to ascertain what will be done inside city limits toward repairing street connecting up with proposed road.
- San Francisco, Cal.**—Board of Supervisors has ordered granite curbs, basalt block gutters, etc., on five streets.
- Santa Rosa, Cal.**—Citizens have petitioned Council to issue \$500,000 bonds for municipal improvements, including considerable street work.
- Glenwood Springs, Colo.**—Council has ordered cement walks on both sides of Grand ave. and 8th st.
- Enfield, Conn.**—Town has passed resolution applying for \$20,000 of State appropriation for building public roads.
- Windsor Locks, Conn.**—Citizens have voted to expend \$20,000 for construction of roads.
- Dover, Del.**—Council has again decided to advertise for bids for street and sewer bonds.
- Washington, D. C.**—North Washington Citizens' Association has urged paving of seven streets.
- Jacksonville, Fla.**—Council has passed first reading ordinance providing for construction of sidewalks to amount of \$100,000.
- Miami, Fla.**—Dade County will vote November 23 on \$150,000 bonds for road improvements.—E. S. Frederick, County Engineer.
- St. Augustine, Fla.**—C. P. Townsend, Chairman Sanitary and Street Departments, will inspect asphalt pavements in various cities.
- Louisville, Ga.**—Rebuilding and improvement of number of roads is being considered; about \$25,000 will be expended.—James F. Brown, County Commissioner.
- Newman, Ga.**—Coweta County is considering construction of 20 miles of sand and clay roads; cost \$25,000.—H. C. Glover, County Commissioner.
- Oglethorpe, Ga.**—Construction of 50 miles of roads is being considered.—J. R. Lane, County Engineer.
- Cairo, Ill.**—Board of Local Improvements has decided to pave Sycamore st.; cost \$59,584.10.
- Chicago, Ill.**—Council has decided to resurface five streets. Alderman Patrick J. Nolan is interested.
- Joliet, Ill.**—Council has passed ordinances for constructing sidewalks in portions of Herkimer, Vine, Ruby and Chicago sts.; total cost \$1,817.73.—Wm. S. Welch, Clerk Board of Local Improvements.
- Peoria, Ill.**—City has decided to pave South Adams st. with brick; opening of Chancellor st. is being considered.
- Fort Wayne, Ind.**—Park Board has asked for \$1,300 appropriation to construct macadam and asphalt approach to Swinney Park.
- Hammond, Ind.**—Department of Public Works has passed resolution for paving alley between State st. and Plummer ave.—P. J. Lyons, City Engineer.
- Indianapolis, Ind.**—Board of Works has confirmed six improvement resolutions.
- Melbourne, Ia.**—Council has ordered construction of permanent sidewalks.
- Atchison, Kan.**—City is receiving bids for paving 13th st. with brick and cement curb; Council has adopted resolution providing for paving U st. with vit. brick.
- Junction City, Kan.**—City will soon ask for bids on eight blocks of brick paving on Washington and 5th sts.—J. G. Pease, City Clerk.
- Lawrence, Kan.**—City has decided to grade, curb and pave New York st.—F. D. Brooks, City Clerk.
- McPherson, Kan.**—Main st. property owners are considering paving of that thoroughfare.
- Ottawa, Kan.**—Citizens are urging paving of South Poplar and 5th sts.
- Salina, Kan.**—Bids will be received soon for brick paving on S. Santa Fe ave.—P. G. Wakenhut, City Engineer.
- Hodgenville, Ky.**—Fiscal Court of this County has appropriated \$300 per mile to build metal road from Buffalo to Lincoln farm; remainder of money is to be paid by subscription by Buffalo citizens; it is estimated that metal road will cost about \$1,000 per mile, or a total of about \$2,500.
- Lexington, Ky.**—Residents of Park ave. are urging extension of that thoroughfare.
- Louisville, Ky.**—Citizens of Highland Park will vote on \$20,000 bonds for street and sewer improvements.
- Louisville, Ky.**—Board of Aldermen has appropriated \$12,393.17 for paving city wharf with granite blocks.
- Alexandria, La.**—Board of Aldermen has decided to sidewalk and curb Bolton ave.—J. P. Tarregano, Mayor.
- Estherwood, La.**—Alada Parish Jury will build soil road from this city to Mammon oil field.
- New Orleans, La.**—Finance Committee will consider petition for paving Louisiana ave. with granite.
- Baltimore, Md.**—Council is considering following appropriations: \$7,700 for repairing Walker st.; \$27,700 for Callow ave.; \$4,000 for Henry st., and \$6,500 for Paca st.
- Amesbury, Mass.**—Citizens are urging macadamizing of Hillside ave. and Sparhawk st.
- Holyoke, Mass.**—State road will be built through Smith's Ferry district, provided city appropriates money to meet one-half the expense; it has been estimated that road through annexed territory may cost \$40,000.
- Lynn, Mass.**—Council has ordered Haslam paving laid on Almont st.
- Laurium, Mich.**—City is considering paving all business streets with tar macadam next year.
- Buffalo, Minn.**—County Board has appropriated \$2,700 to various towns for road construction.
- Duluth, Minn.**—Petition is being circulated for paving of East 2d st.
- Virginia, Minn.**—City will lay one block of tar macadam on Cleveland ave. this fall, in order to make test during the fall and winter with view of further improvement later.
- Poplarville, Miss.**—Construction of number of roads in Pearl River County is being considered; cost \$32,000.—H. L. Smith, Clerk Commissioners.
- Vicksburg, Miss.**—City has decided to pave Cherry st.
- Hannibal, Mo.**—Citizens are urging paving of streets.
- St. Louis, Mo.**—Property owners and merchants along Olive st. are urging paving of that thoroughfare with wood blocks.
- Union, Mo.**—Franklin County is considering construction of macadamized roads.—C. L. Moore, Engineer.
- Omaha, Neb.**—Council has decided to pave South 13th st. as far as Fort Crook; cost \$40,000.
- Absecon, N. J.**—Early improvement of two-mile road between this city and Pleasantville is assured.
- Atlantic City, N. J.**—Council has passed on third reading ordinance to widen boardwalk; informal estimate of cost at \$134,500 was presented by Councilman Riddle, and estimate will be subject of specifications, which are to be authorized at Council's next meeting.
- Blasdell, N. Y.**—Good Roads Committee of Board of Supervisors has decided in favor of paving road between this city and Hamburg with brick.
- Fulton, N. Y.**—Board of Public Works has accepted and approved plans submitted by City Engineer O. C. Breed for improvement of Broadway between 1st and 2d sts.
- Mayville, N. Y.**—County Supervisors have decided to improve Roberts rd. for distance of 2.62 miles by brick upon a concrete foundation.
- Northport, L. I.**—Citizens are urging improvement of neglected highways.
- Fainted Post, N. Y.**—Engineers in employment of State Engineering Department are now engaged in making survey for new State road to be built next spring from Corning City line through village of Fainted Post across the river bridge and up the Addison road.
- Saranac Lake, N. Y.**—City has awarded \$9,000 sewer and \$9,000 street bonds to G. M. Hahn at \$100.12.
- Lexington, N. C.**—Lexington Township has voted \$100,000 bonds for good roads.
- Carthage, N. C.**—Bids will be received Nov. 1 by Board County Commissioners for \$20,000 bridge bonds, part to be used for constructing bridges.—U. L. Spence, Chairman.
- Reedsville, N. C.**—Citizens have voted bonds for laying additional granolithic sidewalks.
- Milton, N. D.**—Citizens will vote on bonds for street improvements.
- Bowling Green, O.**—Wood County has sold \$50,000 stone road improvement bonds for \$1,044 premium to First National Bank of Cleveland.
- Cincinnati, O.**—Bids will be received Oct. 21, noon, for improving Chicksaw st. and Ethan ave.—J. J. Wenner, Clerk Board of Public Service.
- Dayton, O.**—Plans have been submitted for improvements of 1st alley north of 3d st.; cost \$1,836.
- Delaware, O.**—Bids will be received Nov. 4 by County Commissioners for \$136,360 road improvement bonds.
- East Palestine, O.**—City has awarded \$8,000 street bonds to First National Bank, city, at \$243.50 premium.
- Logan, O.**—City has awarded \$10,700 street bonds to Remel National Bank and First National Bank, city, at par.
- Marion, O.**—New First National Bank, Columbus, has been awarded Holland pike road bonds, amounting to \$6,000, at a premium bid of \$135.
- Norwood, O.**—City has awarded \$18,695.04 street bonds to Well, Roth & Co. at \$308.50 premium.
- Ravenna, O.**—Plans are being prepared by Consulting Engineers Williams, Proctor & Potts, 17 Battery place, New York City, for one mile of vitrified brick paving.—Ed. Marvin, City Clerk.
- Sandusky, O.**—Council has decided to pave Neil st. with brick.
- Steubenville, O.**—County Commissioners have asked for proposals on experimental brick paved road with concrete curb to be laid below Brilliant.
- Toledo, O.**—Council has decided to improve Pinewood ave., South Main and Plymouth sts. by grading and paving.—J. M. Babcock, Clerk.
- Warren, O.**—Plans have been prepared for improvement of Woodland ave.
- Ada, Okla.**—Pontotoc County is considering election on \$150,000 bonds for roads and bridges.
- Guthrie, Okla.**—Council has decided to improve four streets; length one mile.
- Carbondale, Pa.**—Mayor Sahm will shortly inaugurate campaign for better roads and more sidewalks in this city.
- Chester, Pa.**—County Commissioners have decided not to award contract for paving bridge over Chester Creek at 9th st., under present specifications; new specifications will be drawn up and new bids asked for to meet altered requirements.
- Pittsburg, Pa.**—Council has passed bill for improvement of seven streets.
- Scranton, Pa.**—Scranton Automobile Association is urging improvement and paving of all borough and township roads in county.
- Williamsport, Pa.**—Select Council is considering bill providing for purchase of asphalt repair plant; cost \$6,000.
- Beaufort, S. C.**—Beaufort County is considering construction of 1,000 miles of oyster-shell, clay and sand roads.—C. A. Verrier, County Commissioner.
- Sioux Falls, S. D.**—City will pave 6th st. about 4,500 sq. yds., Sioux Falls Jasper blocks.
- Blountville, Tenn.**—County Court has decided to macadamize principal streets from end to end.
- Bristol, Tenn.**—Bids for grading and macadamizing upwards of 60 miles of road in Sullivan County have been rejected by Commission upon the ground that they were too high; cost about \$200,000, work to be done inside city limits includes ten streets.
- Anson, Tex.**—City has voted \$15,000 street improvement bond issue.
- Carrizo Springs, Tex.**—Dimmit County will construct 60 miles of clay roads during year; cost about \$30,000.—J. Ray Brown, Engineer.
- Dallas, Tex.**—City has decided to improve Cedar Springs ave. and Highland st.
- Granbury, Tex.**—Petition is now being circulated in Commissioners' Precinct No. 1 asking for election on bonds for building and maintaining good roads.
- Houston, Tex.**—Road District No. 1, Caldwell County, has sold \$50,000 road bonds to Texas Trust Company.
- Waxahachie, Tex.**—County Commissioners have sold \$7,000 worth of Waxahachie Road District bonds to Ellis County school fund.
- Ogden, Utah.**—Surveys have been made by County Engineer Craven for highway from Eden to the southern part of Cache Valley; estimated cost \$2,500.
- Alexandria, Va.**—Street Committee has recommended \$4,000 appropriation for construction of 27-ft. broken stone roadway from Wythe to Montgomery sts., and 18-ft. roadway similar pattern from Montgomery st. to connect with like county roadway; committee is considering construction of 16-ft. roadway on South Washington st. and grading Franklin st.
- Alexandria, Va.**—Committee on Streets has recommended \$4,000 appropriation to grade and construct broken stone roadway on North Washington st.
- Norfolk, Va.**—Board of Control has estimated cost of curbing and guttering Landing st. at \$5,085.—W. T. Brooke, City Engineer.
- Staunton, Va.**—Construction of 10 miles of road is being considered; cost \$40,000.—A. H. Pettigrew, Churchillville, County Engineer.
- Puyallup, Wash.**—Council has passed resolution for paving Meridian st. with asphalt granitoid.
- Seattle, Wash.**—Council has passed bills for improvement of eleven streets.
- Charles Town, W. Va.**—Jefferson County is considering construction of 12 miles of limestone roads.—James H. Hendricks, County Engineer.
- Williamson, W. Va.**—Construction of 40 miles of roads are being considered; approximate cost \$15,000.—James Hatfield, Wharncleft, Mingo County, Engineer.
- Madison, Wis.**—City is considering extension of Park st.
- Madison, Wis.**—Council has decided to improve University ave.—J. F. Icke, City Engineer.
- Manitowoc, Wis.**—Council has passed resolution for paving Quay and 10th sts.

BIDS RECEIVED AND CONTRACTS AWARDED

Birmingham, Ala.—Council has awarded contracts to the following low bidders: Paul Richter for sidewalk paving under improvement ordinances Nos. 466 and 473, New Series, for \$2,004.90; city of Birmingham for work under improvement ordinances Nos. 468 and 474, New Series, for \$10,546.50; C. M. Burkhalter for grading and macadamizing under improvement ordinance No. 473, New Series, for \$2,172.50.

Ensley, Ala.—A street roller was ordered from the Kelly-Springfield Road Roller Co., of Springfield, O., purchase price being \$2,400.

Gadsden, Ala.—City will award contract to Graves-Matthews Paving Co., Birmingham, Ala., to pave streets in business section, including Broad, Chestnut, 4th, 5th and Court sts.; contract calls for 22,000 sq. yds. vit. brick paving; cost \$1.71 per sq. yd.

Montgomery, Ala.—City has awarded contract to Southern Paving & Construction Co., Montgomery, for asphalt paving on Lawrence st.

New Decatur, Ala.—Council Oct. 9 let contract to Good Roads Construction Co. of Memphis for paving Sherman st. for \$15,776.60; other bidders were George A. Peters, of Sycamore, Ill., \$15,921.12; the Graves-Matthews Paving Co., Birmingham, \$16,456.36; Goodrich & Crinkley, of Harriman, Tenn., \$16,558.58.

Corona, Cal.—Oscar Ford, of Riverside, has been awarded contract for restoring washed streets to normal grade for \$10,424.50.

Hollywood, Cal.—City Trustees have awarded to Barber Asphalt Paving Co., Philadelphia, Pa., contract to improve portion of Prospect ave. at about \$100,000.

Jackson, Cal.—The Town Trustees have purchased for \$603 a gasoline engine with which to crush rock for street repairs. The crusher will be purchased later.

Sacramento, Cal.—The Board of Supervisors has rejected the bid of H. J. Gray of \$5,947.50 as too high for the grading and graveling of a half mile of road between Franklin and the Sacramento River, and Supervisor Thisby at his own request was authorized to proceed with the work by day labor.

Stockton, Cal.—Contract for improving lower Sacramento rd., approximately 20 miles, was awarded, Oct. 5, to City Street Improvement Co., Merchants' Exchange Bldg., San Francisco, at \$164,636.

Hartford, Conn.—Bids for the construction of State road work were received by State Highway Commissioner Oct. 6 as follows: Town of Orange, 5,425 lin. ft. of macadam rd., including one 12-in., one 15-in., one 24-in., and one 18-in. tile culverts, C. W. Blakeslee & Sons, New Haven, Conn., \$4.03 per lin. ft. for macadam, \$4.55 for telford, \$1.75 per lin. ft. for rubble drain, 40c. per lin. ft. for railing and 50c. per sq. yd. for cobble gutters; B. D. Pierce, Jr., Co., Bridgeport, Conn., \$4.50, \$5.30, 75c., 75c. and 65c.; Edward Tracy, Derby, Conn., \$4.25, \$4.51, 79c., 47c. and 45c.; F. Arrigoni & Bro., Durham, Conn., \$2.98, \$3.90, 75c., 52c. Town of Norwalk, 4,615 lin. ft. macadam, B. D. Pierce, Jr., Co., Bridgeport, Conn., \$1.14 per lin. ft. Town of Westbrook, 5,045 lin. ft. macadam road, B. D. Pierce, Jr., Co., Bridgeport, Conn., \$1.55 for macadam and \$2.25 for telford; Lane Construction Corp., Meriden, Conn., \$1.07 and \$1.77; Donahue Bros., Middletown, Conn., \$1.34 and \$2.04; A. Brazos & Sons, Middletown, Conn., \$1.63 for macadam.

Jacksonville, Fla.—City has awarded contract to Fred Ogram, city, to lay 3,000 lin. ft. of tile sidewalk on Union and Main sts. and Florida avenue; contract price 77c. per sq. yd. for tiles.

Sarasota, Fla.—City has awarded contract to I. M. Brandon, city, for improving four miles of street.

Bridgeport, Ill.—Board Local Improvements has awarded contracts for 22,000 sq. yds. brick paving to O'Donnell Bros. & Co., of Vincennes, Ind., for \$46,539.

Chicago, Ill.—The M. H. McGovern Co., 128 Washington st., has secured contract for 30,000 yds. of asphalt paving repairs at 87c. per sq. yd.

East Moline, Ill.—The following bids were opened, Sept. 27, for paving a portion of 1st ave.: McCarthy Improvement Co., of Davenport, Ia., \$50,000, awarded contract; J. B. McCauley, of Galesburg, \$51,000, and Cain Construction Co., of Gary, Ind., \$53,000.

East St. Louis, Ill.—Contracts for brick paving, bids opened Oct. 7, have been awarded as follows: To Geisel Construction Co., 620 Chestnut st., St. Louis, Mo., for 11th st., from Mission to Division ave., \$6,091; to Reeb Bros., for Bowman and Exchange ayes, and 7th st., \$20,286, and Meyer & Thomas, for Lincoln ave., \$14,126.

Marshall, Ill.—Bids have been received by Board of Local Improvement for vit. brick paving, and contract has been awarded

ed to George T. Miller, of Lebanon, Ind., at a total of \$23,601 on Brazil block.—W. R. Paige, 109 Arcade Bldg., Terra Haute, Ind., Consulting Engineer.

Crawfordsville, Ind.—Bids were received Oct. 5 for construction of a gravel road in Wayne Township, known as the Huckery road. Contract has been let to Enos O'Connor & Son, of Crawfordsville, at \$9,990.—Milton Ness, County Surveyor.

Elkhart, Ind.—The Board of Public Works has awarded a contract for building walk on Cleveland ave. to F. W. Hillman at 7½c. a sq. ft.; there was no other bid.

Ft. Wayne, Ind.—There will be no pavement laid on East Berry st. this fall, as the bids submitted by the Moeller Construction Co. were all above the estimate except the one providing for brick; this material is prohibited, as its construction would raise the pavement on the north side of the street to a level almost with the curbing. The bids submitted for the work by the Moeller Construction Co. were as follows: for brick, \$6.35 per lin. ft.; creosote block, \$9.36; creosote oil block, \$10.33. The pavement on Nelson st. will also be carried over until next spring and the contract will be awarded to A. F. Anderson, whose figures were \$3.97 per lin. ft. John B. Grosjean was awarded the contract for the building of cement sidewalks on both sides of Wells st. from the St. Mary's River to Hoffman st., on a bid of 12c. per sq. ft.

Greencastle, Ind.—Contract for macadamizing Liberty st. has been awarded to Green Parker for \$4,548.

Indianapolis, Ind.—The Board of Public Works received bids, and in two instances Marion Caldwell was the lowest bidder, but he failed to sign his bids, and the contracts probably will be awarded to the next lowest bidders. Caldwell bid 79c. a lin. ft. for sidewalks in Washington blvd.; J. E. Sullivan and John Arnold each bid 84c., the next lowest bids, and will have to toss a coin to decide which gets the contract. Among the bids opened the low bids follow:

Twelfth st., from Oregon st. to 1st alley east of Brooks st., Marion Caldwell, \$1.23; First alley west of Delaware st., from Vermont st. to first alley south, brick roadway, City Construction Co., \$1.15; Sutherland ave., from 30th to first alley north of Fleet st., cement walks and curb, Lackey Bros., \$1.27; Randolph st., from Washington st. to New York st., cement walks, etc., George W. Shelby & Co., 94c.; Grace st., from Newton st. to English ave., curb, J. Harry Roberts, 56½c.; Oakland ave., from Newton ave. to English ave., curbing, J. Harry Roberts, 56c.; Christian st., from Newton st. to English ave., curbing, J. Harry Roberts, 56½c.; Washington blvd., from 36th st. to 40th st., cement walks, Marion Caldwell, 78c.; First alley south of Vermont st., from Susquehanna st. to first alley west of Delaware st., brick roadway, City Construction Co., \$1.15; First alley east of Pennsylvania st., from Pratt st. to first alley north, brick roadway, City Construction Co., \$1.38; Dawson st., from Prospect st. to Woodlawn ave., curb, gutters, etc., J. Harry Roberts, \$1.14; cement walks in Colorado ave., from Michigan st. to second alley north of Michigan st., M. Sappirle, 61c.; Washington blvd., grading and asphalt pavement, from 28th to 30th sts., J. E. Sullivan, \$2.39 and \$2.29.

Mt. Vernon, Ind.—The County Commissioners have let the contract for six gravel roads in Harmony Township to Adams, White & Elgeman for \$27,270, and two in Mays Township to the same company for \$18,849.

South Bend, Ind.—Peters Bros. Paving Co., Chicago, Ill., has secured contract for asphalt pavement on La Porte ave.; 7,370 sq. yds., at \$1.67 per sq. yd.; total, \$13,400.

Cedar Rapids, Ia.—Mike Ford has secured contract for paving with brick block in portions of "B" and "C," 4th and 5th aves. at \$1.58 per sq. yd.

Knoxville, Ia.—Kettle River Quarries Co., Minneapolis, Minn., has secured contract to pave eight blocks with creosoted block at \$37,182; Morrison & Turner bid \$37,521 for this work.

Shenandoah, Ia.—Council, Sept. 27, awarded contract for paving portions of Valley and Lowell aves. and Blossom st. to Hamilton & Schwartz at \$1.80 for the former and \$1.25 per sq. yd. for the latter streets.

Wichita, Kan.—Paving contracts have been awarded as follows: To the Cleveland Trinidad Paving Co., for paving portions of S. Market st. at \$1.94 per sq. yd.; Mr. Muddock, at \$1.98 per sq. yd., and N. Market st. at \$2 per sq. yd.; to the Kansas Bitulithic Co., Topeka ave., at \$2.15 per sq. yd.

Ashland, Ky.—John Bradley, Atlanta, Ga., has submitted lowest bid for about 27,000 yds. of paving for Winchester and Greenup aves. at \$1.67 and \$1.89 per sq. yd.

Lexington, Ky.—Graves, Cox & Company will erect the milestones along pikes; about 100 milestones will be erected.

Lexington, Ky.—The Board of Public Works opened bids for grading, macadamizing and excavating Columbia ave., from Woodland ave. to Rose st., and Woodland ave. from Euclid to Columbia aves., the two lowest and best bidders being Miller & Co. and Prof. A. G. McGregor; the bid of the latter was the lower and he will get the contracts. The bids were as follows: Miller & Co., for Columbia ave., \$2.50 per lin. ft. for grading and macadamizing; 40c. per cu. yd. for excavating; for Woodland ave., \$3.30 for grading and macadamizing and 40c. for excavating.

Prof. McGregor bid only in totals, \$3,250 for the Columbia ave. work and \$3,100 for Woodland ave.

Lexington, Ky.—Assistant City Engineer White Guyn has estimated the cost of reconstruction of North Broadway from Main st. to Second st. at approximately \$10,600; the bid of Kelly Bros. was \$1.46 per sq. yd. for the paving and \$4 per cu. yd. for the concrete base.

Houma, La.—For the construction of cement sidewalks on both sides of Main st., H. V. O'Rourke was awarded the contract.

New Orleans, La.—Committee on Finance has reported in favor of awarding contract to pave with asphalt on Lowerline st. to Barber Asphalt Paving Co., of Philadelphia, Pa., at \$9,648.

Boston, Mass.—Proposals were received Oct. 11, by the Charles River Basin Commission, for making the roadway and walks on the Charles River dam. The work yet remaining to be done includes furnishing and placing about 6,200 cu. yds. of gravel, 15 catch basins, 2,700 lin. ft. of granite edgestones, 9,000 sq. yds. of granite block paving and 2,200 sq. yds. of brick sidewalk; firms submitting estimates were: C. W. Doloff & Co., 20 Central st., \$33,870; Fred S. & A. D. Gore Corporation, 1016 Adams st., Dorchester, \$34,370; F. H. Cowin Co., 184 Summer st., \$34,879; Rowe Contracting Co., Chestnut Hill ave., Brighton, \$35,505; W. H. Ellis, 18 Tremont st., \$39,470, and T. H. Gill Co., 72 Bonair st., Somerville, \$40,114.

Kalamazoo, Mich.—Bids for grading Alamo ave., the city to furnish the earth and gravel, were opened, and three contractors submitted figures as follows: U. K. Balch, \$475; William Taft, \$518; S. H. Burma, \$550; the bids were referred to the Street Committee with power to act.

St. Joseph, Mo.—Board Public Works has awarded contract for furnishing an asphalt repair plant to the American Asphaltum & Rubber Co., of Chicago, Ill., for \$4,000.

Lincoln, Neb.—Following bids have been opened for paving portions of 7th and "M" sts.: M. Ford, \$13,787; National Construction Co., of South Omaha, \$12,959, and Abel & Roberts, of Lincoln, \$13,202 for Pittsburg brick, and \$12,959 for Phoenix brick.

Freehold, N. J.—Two new road contracts were awarded by the Board of Chosen Freeholders, Oct. 13, both of which will be built of gravel. Cedar ave. and Monmouth rd., 2½ miles in length, at Long Branch, will be built by Joseph L. Butcher & Son, of Farmingdale, their bid of \$21,000 being the lowest of six bids submitted for the work. Richard Hafeman, of Farmingdale, was awarded the contract to build a section of the Lakewood-Adelphia rd., 2½ miles in length at Southard, his bid of \$6,190 likewise being the lowest of six bidders. Other bids submitted for the work on the Long Branch rd. were: C. H. Lawrence, Spring Lake (with local gravel), \$18,375.12; (with Allenwood gravel), \$21,789.82; Richard Hafeman, Farmingdale, \$24,765; Hillpot & Cox, Red Bank, \$21,377.55; J. F. Shanley & Co., Newark, seacoast gravel, \$22,817.72; Hopping gravel, \$16,415.50. The unsuccessful bids on the Lakewood-Adelphia rd. were: Butcher & Van Scholck, Farmingdale, \$6,925; Joseph L. Butcher & Son, Farmingdale, \$6,470; J. F. Shanley Co., Newark, \$8,172; John L. LeCompte, Lakewood, \$7,486; Thomas G. Orr, Freehold, \$6,900.

Parker & King, who were awarded the contract for building the Jerseyville-Freehold gravel rd., and Hillpot & Cox, who sub-contracted for the work, were granted an extension of time to Nov. 15 in which to complete the road. George Potts, contractor on the Corlies av. road, below Farmingdale, was granted a like extension of time in which to complete the work.

Newark, N. J.—Contracts for the paving of four roads with telford were awarded by the Road Committee of the Board of Freeholders, subject to the approval of the Board: the roads to be improved are old Short Hills rd., Short Hills; Runnymede rd., Caldwell and Essex Fells; Cedar st., Livingston, and the Mountainview ave. extension, Caldwell and Essex Fells. M. M. Bamberger was awarded contracts for the paving of the first two for \$25,894.70 and \$18,000; Philip and Peter Jannerone obtained contract for Cedar st. for \$21,200.82, and the improving of Mountainview ave. extension.

sion was awarded to James Mathews for \$561.

Ocean City, N. J.—City Treasurer Ira S. Champion and John Bramell, of Ocean City, were awarded by Council contracts for a lot of street work.

Orange, N. J.—Michael Loprete was the successful bidder out of five for the construction of sewers in the new streets of East Orange Terrace, incorporated; the contract will aggregate in value \$4,500. Loprete also obtained the contract for laying 50,000 ft. of concrete sidewalks in the tract at 14c. a sq. ft.

Trenton, N. J.—The Filbert Paving and Construction Co. submitted the lowest bids to the Board of Freeholders for resurfacing West State st. and Greenwood ave. The Board, however, was served with a notice by the Warren Brothers Co., of Boston, controlling Warrenite composition, that Filbertine and Amiesite, laid according to specifications, would infringe on the patent rights of the Warren Co., and a law suit would probably result. The bids were referred to State Road Commissioner Gilkyson. Thomas J. McGovern submitted bids which were thrown out by the Road Committee, because he had failed to comply with specifications in that he had not made known the proportions of his ingredients or to demonstrate the value of a pavement laid according to his plans. The bids received for the work were as follows: State st., from Parkside ave., Filbert Paving and Construction Co., \$9,405.08, for Filbertine; Thomas J. McGovern, for Filbertine, \$12,000; United Paving Co., \$15,075.79, for Warrenite; Greenwood ave. to the Allentown turnpike, Filbert Paving and Construction Co., for Filbertine, \$10,457.04; Thomas J. McGovern, for Filbertine, \$12,000; United Paving Co., for Warrenite, \$16,762.02.

Binghamton, N. Y.—Board of Contract and Supply has opened bids as follows for paving a portion of Washington st., price given per sq. yd.: A. D. Osborn, Bessemer block, \$2; Shawmut block, \$1.79; Clearfield block, \$1.90; Mack block, \$2. A. L. Willey, Mack block, \$2.03; Porter block, \$1.91; Pennsylvania clay, \$1.93.

Buffalo, N. Y.—F. V. Broth Co., of Rochester, has secured the contract for constructing Buffalo Hamburg rd. and Orchard Park rd., Sections 1, 3 and 4, in Erie County, for a total of \$177,000.

New Rochelle, N. Y.—Following contracts have been awarded by Board of Public Works: Fifth ave., paving with asphalt block, from North ave. to Halcyon rd., to Hastings Pavement Co., Railroad ave., New Rochelle, for \$21,401; Hassam pavement from Halcyon road to Hunter ave., to Hassam Paving Co., 90 West st., New York, \$8,980; curbing from North ave. to Hunter ave., to C. S. Haskell, \$3,679; grading Weyman ave., to Vito Romanelli, at \$2,017.

New York, N. Y.—Bids were opened Oct. 5 by Borough President for repairing and maintaining sheet asphalt pavement in Manhattan Borough, where guarantee period has expired, and lowest bid received was that of the Barber Asphalt Co., 50 Church st.; it bid for 60,000 sq. yds. asphalt, including binder course, 90c.; 100 cu. yds. Portland cement concrete, \$7; total \$54,700. Totals of other bids: Uvalde Asphalt Co., 1 Broadway, \$61,750, and Sicilian Asphalt Co., 41 Park Row, \$72,650.

Lowest bid received same time and place as above for regulating and repaving with wood block on concrete foundation, Delancey st., from Essex st. to Chrystie, was submitted by the Republic Construction Co., 18 Broadway, as follows: 11,450 sq. yds. wood block pavement (except the railroad area), \$2.57; 1,800 sq. yds. wood block pavement in the railroad area (no guarantee), \$2.57; 11,900 sq. yds. old stone block, taken up and removed to corporation yard, 1c.; 2,375 cu. yds. Portland cement concrete, \$5.50; 650 lin. ft. new bluestone curb, \$1; 2,650 lin. ft. old bluestone curb, reset, 40c.; 50 noiseless heads and covers, complete, for water and sewer manholes, \$15; 8,675 sq. ft. new bluestone flag, 25c.; 14,425 sq. ft. old flag, relaid, 5c.; 4,525 sq. ft. new cement sidewalks, 17c.; total, \$53,353. Totals of other bids: Barber Asphalt Co., 50 Church st., \$53,812, and U. S. Wood Preserving Co., 165 Broadway, \$56,481.

Syracuse, N. Y.—The lowest price for cement sidewalks in Syracuse was received Oct. 11, when a bid of 7½c. a sq. ft. was received by the Board of Contract and Supply; another bid of 8c. was received, which is also very low; the bid of 7½c. was offered by James Barr for 16,300 sq. ft. of sidewalk on Glenwood ave., and contract was awarded to Mr. Barr for \$1,263.25. The proposal of 8c. was made also by Mr. Barr for sidewalk on Craddock st., and was awarded at \$600.

Bids were received for paving Madison st. with various materials and curbing, the lowest proposal being \$4,377.82, by Gaffey & Byrne, for Jamestown block pavement with combination curb, and the high-

est, \$4,911.88, for asphalt with stone curb-ing.

Proposals for paving Bryant ave. with different materials and kinds of curbing were received as follows:

Stone curb, Central City Paving Co., Johnsonburg block, \$23,864.75; Trinidad asphalt, \$25,183.25; macadam, \$19,321.50. F. J. Baker, Johnsonburg block, \$25,208.90; Trinidad asphalt, \$25,650.40. Gaffey & Byrne, Jamestown block, \$24,704.15. C. T. Hookway, informal. Warner-Quinlan Paving Co., Pennsylvania Clay Co.'s block, \$25,605.35; Trinidad asphalt, \$25,870.25. Lowery Bros., Pennsylvania Clay Co.'s block, \$24,828.25. Long & Miller, macadam, \$18,739.10.

Paving street, combined curb; Central City Paving Co., Johnsonburg block, \$22,763.65; Trinidad asphalt, \$25,981.65; macadam, \$18,575.40. F. J. Baker, Johnsonburg block, \$24,034.80; Trinidad asphalt, \$24,442.80. Gaffey & Byrne, Jamestown block, \$22,291.95. C. T. Hookway, informal; Warner-Quinlan Asphalt Co., Pennsylvania Clay Co.'s block, \$25,354.45; Trinidad asphalt, \$25,598.05. Lowery Bros., Pennsylvania Clay Co.'s block, \$21,494.85; Long & Miller, macadam, \$18,018.50.

Alliance, O.—The Board of Control received bids for paving of West Summit st. and Mahoning ave. For West Summit st. John Wilson, Stratton & Applegate and John C. Devine were the bidders; John Wilson with a total of \$6,572 is low, with Mr. Devine second at \$6,872. There is estimated to be 3,000 sq. ft. in the job. The Mahoning ave. bidders are John Wilson, M. J. McGinty and John C. Devine. Mr. Devine, with a bid of \$8,557 is the lowest, with Mr. Wilson at \$8,611; an estimate of \$3,700 sq. yds.

Bucyrus, O.—The Board of Public Service received bids on the subway grading job at Cook st. and Highland ave., and the contractor who gets the job will have to move approximately 8,000 yds. of dirt; the bids were as follows: L. P. Battfeld, 42c. per cu. yd.; L. R. McMichael, 44c.; J. W. Scott, of Uncapher, Scott & Co., 45c., and G. C. Penny, of Akron, 47c.; the contract price will reach about \$3,360.

Cambridge, O.—D. S. Burt, Byesville, has secured contract for paving Cambridge and Byesville State rd. with water-bound macadam for \$5,000; and Fowler & Warrick, of Barnesville, for the Quaker City and Salesville State rds. with water-bound macadam for \$7,980.

Carrollton, O.—Springer & Rufenacht, New Philadelphia, have secured contract for paving Infirmary State rd. with brick, using rolled stone foundation, for \$11,311.

Corlett, O.—Bids were opened Oct. 6 for grading, curbing and paving Ransom ave., Yale and Sunset sts., and lowest bid submitted was that of the W. J. Townsend Co., for \$8,357.—Courtney Engineering Co., 407 American Trust Bldg., Cleveland, Engineers.

Martins Ferry, O.—The Township Trustees received bids for paving the River rd. from the corporation line to Pultney Township line, the two lowest being Dixon & Pickett, \$2,304, and C. C. Cochran, \$2,311; the contract was awarded to Dixon & Pickett. The brick contract was awarded to the Suburban Brick Co.

Toledo, O.—Contract for paving portion of Hoag st. has been awarded to Henry Sheehan, 1208 Collingwood ave., for \$5,834.

Wellsville, O.—The Board of Service let contract for the improvement of Vulcan alley and Arthur st., when four bids were submitted as follows: Wells & Forbes, \$708, awarded contract; George B. Patterson, \$1,110; George M. Aten, \$728, and L. M. Weigle, \$1,624.

Guthrie, Okla.—Council has awarded contract to J. F. Hill Construction Co. for paving North Division st. with double course brick at \$1.79 per sq. yd.

Portland, Ore.—Street paving contracts have been awarded as follows: Pacific Bridge Co., Mohawk Bldg., surfacing Division st. with bitulithic, \$2 per sq. yd., total about \$108,952, maintenance guarantee of five years; Elwood Wiles, Chamber of Commerce Bldg., E. 7th st., with asphalt at \$2 per sq. yd., total \$48,289; Oregon Hassam Paving Co., with Hassam on E. Morrison st. at \$1.85 per sq. yd., total \$20,191, also Broadway, at \$1.85 per sq. yd., total \$35,774.

Philadelphia, Pa.—Director Stearns has awarded the contract to M. and J. B. McHugh, for \$16,400, for the work of grading and paving K st., from Kensington ave. to Front st., and for grading and macadamizing Sedgeley ave. from K st. to Kensington ave.

Pittsboro, Pa.—Bids have been received by Borough Council for grading and paving 5th st.; Harrop, Hopkins & Taylor are Borough Engineers, 900 Lewis Block, Pittsburg. The contract has been let to the Dustin Contracting Co., 4th ave., Tarentum, Pa., at \$5,863.

Uniontown, Pa.—W. C. McCormick was awarded the contract for paving Morgan-

town st., while the other three bidders were Uniontown Construction Co., H. C. Brooke and B. O'Connor; the successful contractor presented the lowest prices in every department, which were: grading, 40c.; Layton hillside block, \$1.47; Layton brick, \$1.39; Pittsburg-Buffalo hillside block, \$1.47; Pittsburg-Buffalo brick, \$1.40; combination curb and gutter, 44c. per lin. ft.; catch basins, \$26, and 12-in. sewer pipe, 75c. per lin. ft.

Other bids were: Uniontown Construction Co., grading, 45c.; Layton hillside block, \$1.48; Layton brick, \$1.41; Pittsburg-Buffalo hillside block, \$1.48; repressed brick, \$1.48; combination curb and gutter, 55c.; catch basins, \$29; 12-in. sewer pipe, \$1. H. C. Brooke, grading, 59c.; Layton hillside block, \$1.59; Layton brick, \$1.59; Porter block, \$1.49; Porter brick, \$1.59; combination curb and gutter, 80c.; catch basins, \$25; 12-in. sewer pipe, \$1. B. O'Connor, grading, 50c.; Layton hillside block, \$1.50; Layton brick, \$1.40; combination curb and gutter, 85c.; catch basins, \$30; 12-in. sewer pipe, 85c.

Wilkes-Barre, Pa.—Bids for paving Elizabeth st. with asphalt were opened by the Street Committee of Councils Oct. 11, and the Councils will award contract to the Warner-Quinlan Co., the lowest bidder, at \$2.04 per sq. yd. for asphalt and 77c. per lin. yd. for redstone curb. B. G. Coons & Co. bid \$2.18 per sq. yd. for asphalt and 88c. per lin. ft. for redstone curb. Alfred Hand, ex-City Engineer, bid 87c. per lin. ft. on the curb.

Smithfield, R. I.—State Board Public Roads has awarded contract for constructing 47,520 ft. of State highways in North Smithfield and Smithfield to Thos. H. Quinn for \$29,800. Other bidders were: John Bristow, \$34,619.20; Bryan F. Mahan, \$29,540; Lane Construction Corporation, \$29,930; Pocasset Ice Co., \$32,950; Arthur W. Steere, \$30,800; L. H. Callan, \$32,175; Jos. McCormick, \$33,249; Amos D. Bridge Sons' Co., \$32,278.40.

Carrizo Springs, Tex.—J. A. Clift has contract to grade road from Carrizo Springs to Asherton; distance nine miles.

Ft. Sam Houston, Tex.—Daniels-Lyst Co., Anderson, Ind., has been awarded a contract for the construction of walks and drains and for grading at fort; work to be completed by March 1; contract price \$23,919.

Houston, Tex.—City has awarded contract to T. A. Lucas, city, to pave five blocks on Walker ave.; cost \$6,000 in addition to cost of bricks, which will be furnished by city.—T. C. Tarver, City Engineer.

Texarkana, Tex.—Bids on the good roads and streets, for Precinct No. 1 of Bowie County, including the City of Texarkana, were opened on Oct. 7 and the bid of the J. W. Maxcy Co., of Houston, being low, was accepted, subject to the approval of \$250,000 bond issue, \$75,000 of which will be expended in city.—A. B. De Loach, Mayor.

Norfolk, Va.—Perry W. Ruth, local representative of the Wise Granite Co., of Wise, N. C., has been awarded a contract for 1,700 tons of paving stone at \$3.98 per long ton for improvements in Berkeley and in the Sixth Ward.

Norfolk, Va.—A contract for 14,000 sq. yds. of sheet asphalt paving in Graydon and Westover ayes. and Manteo and Matasca sts. was awarded by the Board of Control, Oct. 8, to the Barber Asphalt Paving Co., of Philadelphia, the only bidder, at \$1.93 per sq. yd.

Bellingham, Wash.—Contract for paving portion of Champion st. has been awarded to C. G. Burnet, at \$29,488.

Wenatchee, Wash.—Contract for power driven road roller, f. o. b. Wenatchee, bids opened Sept. 28, has been awarded to the Buffalo, Pitts Co., of Portland, Ore., for \$2,800.—S. Summer, City Clerk.

SEWERAGE

Blytheville, Ark.—City will install septic sewer system; cost \$30,000; plans by P. O. Eckels.

Chico, Cal.—City Trustees are considering enlargement of sewer system.

Lodi, Cal.—Board of Trustees is planning installation of sewer system.—Geo. Lawrence, Mayor.

San Francisco, Cal.—Board of Supervisors has ordered construction of sewers and appurtenances in H st.; estimated cost \$95,000.

Santa Rosa, Cal.—Citizens have petitioned Council to issue \$500,000 bonds for municipal improvements, including extension of sewer system.

Yuba City, Cal.—Live Oak and Encinal Light and Power Company has decided to extend sewer into Live Oak.—J. H. Bocker, President.

Holly, Colo.—Plans have been completed by Engineers W. K. Palmer Co., Dwight bldg., Kansas City, Mo., for vit. brick sew-

ers; cost \$25,000.—L. M. Gee, Chairman Board of Trustees.

Torrington, Conn.—Borough Board has ordered sewers constructed on Spear and Freeland sts.

Wilmington, Del.—Street and Sewer Directors have ordered sewers constructed on three streets.

Lakeland, Fla.—Citizens will vote Nov. 11 on \$65,000 bonds for extension of sewer system and water works and erection of schools.—John S. Edwards, Mayor.

Pensacola, Fla.—City is considering erection of pumping station at sewer plant.—T. Chalkey Hatton, Consulting Engineer, Wilmington, Del.

Canton, Ill.—City is considering construction of sewer system and disposal plant; cost about \$50,000.—C. R. Beam, City Engineer.

Quincy, Ill.—Preliminary plans are being prepared by Engineer W. S. Shields, 140 Dearborn st., Chicago, for system of tile and brick sewers, with manholes, inlets and outlets; estimated cost \$108,000.—John A. Steinback, Mayor.

Kokomo, Ind.—Bids will be received for construction of sewers in Morris st.; cost \$8,000.—W. F. Mann, City Engineer.

Terre Haute, Ind.—City has sold \$35,000 sewer bonds to Harris Savings and Trust Bank, Chicago, Ill., at \$532 premium.

Atchison, Kan.—Council has adopted resolutions to build sewers in District N and X.

Fort Leavenworth, Kan.—Bids will be received Oct. 21, 11 a. m., by Capt. Wm. D. Davis, Constructing Q. M., for construction of sewers, drains and water connections.

Garnett, Kan.—Plans have been prepared by Engineers Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., for vitrified, concrete and brick sewers; cost \$30,000.—M. D. Pilkington, City Clerk.

Great Bend, Kan.—Plans have been prepared by W. K. Palmer Co., Kansas City, Mo., for drainage and sewerage systems.

Lexington, Ky.—General Council is considering ordinance for construction of sanitary sewer on S. Limestone st.

Louisville, Ky.—Citizens of Highland Park will vote on \$20,000 bonds for sewer and street improvements.

Baltimore, Md.—Specifications are being prepared by Sewerage Commission for more lateral sewers, and they will be advertised for bids early next month; work will cost about \$50,000; plans are also being made and the specifications will shortly be prepared for large sanitary interceptor, which will parallel Jones' Falls.

Springfield, Mass.—Orders have been passed for sewers on Prescott, Newland and Ashmont sts.

Detroit, Mich.—Board of Public Works will advertise for bids for 13 vit. brick lateral sewers through alleys.—J. J. Haarer, Commissioner.

Flint, Mich.—Bids will soon be received for construction of 4,000 ft. of sewer on Detroit st. and 6,000 ft. of 10-in. to 12-in. sewer on Saginaw st.—D. E. Newcombe, City Clerk.

Duluth, Minn.—Board of Public Service did not receive any bids for constructing sanitary sewer on 11th ave. W.; estimated cost \$2,200.—R. Murchison, Clerk.

Beverly, N. J.—Citizens will vote some time in November on installation of sewerage system and disposal plant; total cost \$50,000; plans prepared.—Councilmen Kirk, Davis and Lockwood, Committee.

Chatham, N. J.—Plans have been prepared by Consulting Engineers Williams, Proctor & Potts, 17 Battery pl., New York City, for sewer system, length about seven miles, and disposal works.

Madison, N. J.—Plans are being prepared by Consulting Engineers Hering & Fuller, 170 Broadway, New York City, for sewer system and sewage disposal works; work includes 12 miles of vit. pipes, 20 tons c. i. pipe and 136 manholes; cost \$100,000.

Medford, N. J.—Township Committee is considering election on \$30,000 bonds for sewer system.

Newark, N. J.—Engineer E. W. Harrison, of Passaic Valley Sewerage Commission, has announced that plans for proposed great trunk sewer would be completed in March.

Washington, N. J.—Plans have been prepared by Consulting Engineers Williams, Proctor & Potts, 17 Battery pl., New York City, for sewer system, length about 3 miles, and disposal works; estimated cost \$60,000.—A. J. Craft, Borough Clerk.

Auburn, N. Y.—City has sold entire bond issue for construction of Fourth, Fifth, Seventh and Eighth Ward sewer to Blodgett, Merrill & Co., Boston; amount realized by sale was \$113,300.

Mechanicsville, N. Y.—Sewer Board is considering proposed extension of the Penrose ave. sewer.

Niagara Falls, N. Y.—City has awarded \$45,500 sewer bonds to W. C. Langley & Co. at \$105.559.

North Tonawanda, N. Y.—Plans have

been completed for extension of Rumboldt sewer, including construction of lift.

Utica, N. Y.—Board of Estimate and Apportionment has approved \$18,000 bond issue for storm sewers.

Aibemarle, N. C.—City has selected J. M. Brady, Greensboro, N. C., as Designing and Consulting Engineer for proposed installation of sewerage and water systems and lighting.

Reidsville, N. C.—Citizens have voted bonds for construction of sewer system.

Bottineau, N. D.—Council will extend the sewers in number of streets.

Mandan, N. D.—City Engineer Livingston has made plans and specifications for construction of sewer; estimate \$46,665.

Akron, O.—Council has decided to build sewer on Allyn st.

Bellefontaine, O.—Council has passed ordinance authorizing issue of \$15,000 in bonds to do the preliminary work toward building sewerage system for entire city.

Bowling Green, O.—Citizens will vote on \$25,000 bonds for installation of sewage disposal plant.

Canton, O.—Plans will be prepared for proposed Sheerer's Run storm water sewer; cost \$85,000.

Cincinnati, O.—State Board of Health is in favor of immediate building of proposed \$1,000,000 Millcreek sewer.

Hamilton, O.—City has sold \$7,300 storm sewer bonds to Breed and Harrison at \$11 premium.

Ravenna, O.—Plans are being prepared by Consulting Engineers Williams, Proctor and Potts, 17 Battery pl., New York City, for storm sewers.—Edw. Marvin, City Clerk.

Elk City, Okla.—City did not let contract for constructing storm sewers; bids will be readvertised.

Tonkawa, Okla.—Bids will be received Oct. 21 for construction of sanitary sewers.—Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Engineers.

Portland, Ore.—Plans are being prepared for large sewer system in Peninsula District.—D. W. Taylor, City Engineer.

Walters, Okla.—Council has accepted plans by O'Neal Construction Company for proposed sewer system; cost \$26,000; company will supervise work.

Allentown, Pa.—City is considering construction of sewer from 10th and Liberty sts. to 11th and Allen sts.; cost about \$2,500.

Bethlehem, Pa.—Borough Council has ordered bids advertised for extension of Main st. sewer.

Butler, Pa.—D. H. Sutton, of Butler Land and Improvement Company, has received permission from Samuel G. Dixon, of State Board of Health, to erect sewage disposal plant and is investigating systems in other places prior to beginning work in East Butler.

Dormont, Pa.—Bids will be received about Dec. 15 for construction of a sewer system; cost \$50,000.—Douglass & McKnight, Union Bank Bldg., Pittsburgh, Engineers; Clark McKnight, Borough Clerk.

Dunmore, Pa.—Council has decided to build sewer from Blakely to Apple sts.; cost \$1,500.

Phoenixville, Pa.—Council has under consideration petition of National Sewage Company for sewer franchise; sewers would be installed throughout whole town and purification plant established.

West Chester, Pa.—Council is considering question of again holding election to see if residents will approve loan for installation of a sewer system and disposal plants.

Williamsport, Pa.—Council is considering bill providing \$200 appropriation to secure plans for sewage disposal plant as suggested by Engineer Congleton of New York City.

Newberry, S. C.—Citizens will vote Nov. 2 on \$35,000 sewer extension bonds.—J. J. Langford, Mayor.

Chattanooga, Tenn.—Board of Public Works will soon call for bids for proposed pumping station and equipment for sewer system.

Corpus Christi, Tex.—Citizens have voted \$142,000 bonds for construction of sewer system.

Dallas, Tex.—Bids are being advertised for construction of 6-in. sanitary sewer on Grigsby st.

Honey Grove, Tex.—E. L. Dalton, Civil Engineer, Dallas, commenced surface survey of town with object of ascertaining cost of sewerage system.

Houston, Tex.—Plans for Fifth Ward sewer system, which were presented by Engineer F. L. Dormant, have been finally approved by Council; bids will be advertised for at once.

Salt Lake City, Utah.—Council has decided to let contract at once for Sewer Extension No. 220; 15 miles of sewer laterals will be laid in the Second Ward; cost about \$135,000.

Jeffersonville, Vt.—Village committee is making surveys for construction of sewer.

Waukesha, Wis.—Board of Public Works will ask new bids for constructing a sewer on Lincoln ave.; Council has adopted report of sewer committee recommending that sewer be constructed on State st.—John P. Dey, President Board of Public Works.

BIDS RECEIVED AND CONTRACTS AWARDED

Eldorado, Ark.—Board of Commissioners of Sewer District No. 1 has awarded contract to Mellor, Lucowitz & Shull, of Eldorado, to construct sewer system, comprising five miles of mains and four septic tanks; \$30,000 bond issue sold.

Corona, Cal.—The City Trustees opened bids for construction of work on the \$30,000 sewer system, \$91,000 storm drains and restoring washed streets to normal grade, the amount of this last work being covered by the \$14,500 bond issue. Oscar Ford of Riverside was awarded the contract for street grading, his figure being \$10,424.50. The contract for construction of a sewer system went to the Long Beach Paving Co. for \$10,881.31. The lowest bid for sewer pipe was that furnished by the Corona Pressed Brick and Terra Cotta Co., which secured that contract.

St. Augustine, Fla.—John Melcher has been awarded contract for constructing a storm sewer in Valencia st. for \$1,153; he will also lay vit. brick pavement on street.

McRae, Ga.—The Mayor and Council have contracted with J. B. McCrary & Co., of Atlanta for laying additional sewers, to cost something less than \$5,000.

Moline, Ill.—Contract for laying sewers and water mains has been awarded to F. E. Kaminski, of Watertown, Wis., at \$5,536.

Fort Wayne, Ind.—Arthur Prey has been awarded contract for construction of a sewer in the alley between Antoinette and Pontiac from the alley east of Walton ave. to Savannah ave., on a bid of 81c. per lin. ft.

Indianapolis, Ind.—Low bids for sewer construction follow: Burgess ave., sewer from Collett ave. to 1,575 ft. east, American Construction Co., \$1,53; 36th st., from Pennsylvania st. to Central ave., local sewer, Sheehan Construction Co., \$1,59; Sutherland ave., local sewer from 30th to point 1,620 ft. north, \$2.25, the Reliable Construction Co.; Pennsylvania st., from 38th to 39th st., local sewer, the Commercial Construction Co., \$2.14; Ruckle st., local sewer, from Highland Drive to 38 ft. south of 42d st., Manley, O'Donnell & Co., \$1.91; Park ave., from Highland Drive to 42d st., Sheehan Construction Co., \$2.22, local sewer; Broadway local sewer from Highland Drive to 42d st., John Jenkins, \$2.51; local sewer in alley north of Minnesota st., the A. Bruner Co., \$1.05.

Indianola, Ia.—Contract for constructing 3,000 ft. of 6-in. to 12-in. sanitary sewers, bids opened Oct. 4, has been awarded to Smith & Son, of Indianola, for \$3,597.—A. H. Gilliland, City Engineer.

Louisville, Ky.—The James Duff Construction Co., of Cleveland, O.; the Charles F. Fitch Co., city, and E. A. Barker & Son, city, were the successful bidders for the construction of four sections of sewers, for which contracts were let Oct. 12; the total expenditure for the work will amount to \$410,000. Two contracts awarded the Cleveland firm provide for the construction of sections D1 and C of the northwestern sewer for \$250,000. Section B2 of the northwestern sewer, with a contract price of \$80,000, was awarded to E. A. Barker & Son.

Boston, Mass.—All bids opened on Oct. 4 by the Metropolitan Water Board for improvement of Lake Cochituate surface water drains in Framingham, Natick and Wayland have been rejected, all exceeding the appropriations. Lowest bid received was that of S. Camola, of Boston, as follows: 5,800 cu. yds. earth excavation, open channel, 70c.; 8,100 cu. yds. earth excavation, covered drains, \$1; 3,200 cu. yds. borrowed earth, 31c.; 5 cu. yds. rock excavation, \$5; 1,000 cu. yds. concrete masonry, \$8.25; 960 lin. ft. 24-in. vit. clay pipe, \$1.15; 160 lin. ft. 18-in., 70c.; 90 lin. ft. 15-in., 65c.; 50M ft. spruce lumber, \$35; 2,900 sq. yds. stone paving, 93c.; 600 cu. yds. gravel for slopes of open channel, \$1.10; 9 manholes, each, \$52; 3 catch basins, each, \$55; placing c. i. pipe across culvert at station 64, \$150; total, \$28,591. Totals of other bids: T. H. Gill Co., Somerville, \$32,448; Rowe Contracting Co., Brighton, \$32,545; C. E. Trumbull Co., Boston, \$36,172; Bruno & Pettitt, Boston, \$36,240; John J. Falvey, Boston, \$36,495; Cenedella & Co., Milford, \$39,580; Ferd. A. Wyman, Jr., Boston, \$40,953; Martin & Condon, Watertown, \$47,140.

Boston, Mass.—Contract for sewers in Farquhar st. and outlet between Robert and South sts., West Roxbury, has been awarded to A. Cefalo, 220 Devonshire st., for \$6,636.

Webb City, Mo.—Contract for recon-

struction of the 4th st. public sewer, bids opened Oct. 4, has been awarded to V. E. Koch, of Joplin, for \$10,051; work consists of 1,099 lin. ft. 15-in. vit. pipe, 4,600 lin. ft. 12-in. vit. pipe, 5,633 lin. ft. 10-in. vit. pipe and 6,100 cu. yds. of excavation.—A. J. McKenzie, City Engineer.

Hamilton, Mont.—The contract for a sewer system was awarded by Council to the Burrill Bridge and Construction Co. at \$13,470, the next lowest being A. J. McGuire for \$13,513.30.

Lincoln, Neb.—Board of Sanitary Commissioners has opened bids for extension of concrete water way between N and P sts., a distance of about 800 ft., and awarded contract to Lincoln Construction Co. at the following bid: Excavation, 49c. per yd.; concrete work reinforced, \$10.93 per cu. yd.; paving, \$1.75 per sq. yd.; total, \$37,638. Totals of other bids: John Schrank, \$50,502; C. D. Campbell, \$39,900, and Marsh-Burke Co., \$39,824.

Bloomfield, N. J.—Contract for construction of sewer has been awarded by Council on Sept. 30 to Donato Fusco, of Montclair, N. J., at \$6,550.

Batavia, N. Y.—Bids for constructing sanitary system of sewers were opened by Board of Sewer Commissioners Oct. 14. Resident Engineer Hoopes reported that the bids indicated that the sewers could be built within the appropriation of \$375,000.

Syracuse, N. Y.—Bids were received and contracts awarded to the lowest bidders as follows: Pipe sewer in Clarke st. to Alexander Barr at \$1,829; sidewalk on Dale st. to Albert Gaffey for \$132.83; sewer in Quackenbush ave. to Mary E. Gaffey at \$1,101; grading Craig ave. to Samuel Bonn at \$713.20; sewer in West Newell st. to Albert Gaffey at \$4,445; sewer in Renwick ave. to Mary E. Gaffey at \$583.75.

Syracuse, N. Y.—John Young submitted the lowest bid for construction of the West st. intercepting sewer, at \$8,053.48, the estimated cost being between \$8,500 and \$9,000, and the contract will be let to Mr. Young. Other bids follow: Gaffey & Byrnes, \$11,330; Samuel Bonn, \$14,457.20; P. R. Kiely, \$11,236; C. T. Hookway, \$9,994.

Fargo, N. D.—There were two bids for the construction of the water main of College st. between 14th and 9th aves., in sewer district No. 2, as follows: G. W. Haggart, 6-inch sewer, \$1.36; hydrants, \$61.00. Another bid was received as follows: C. H. Porritt awarded contract: 6-inch sewer, \$1.34; hydrants, \$60.00.

Dayton, O.—R. E. Vanderbeck, Zanesville, was awarded contract of constructing storm sewers in Costello, Hartford and other adjacent streets at \$3,255.60.

Bethlehem, Pa.—The Street Committee of Borough Council awarded to John Birk the contract for building the Main and Union st. sewer, his bid being the lowest of seven; he agreed to construct 106 ft. of sewer at \$6 a ft., and to finish a manhole for \$18, making a total cost of \$654.

Easton, Pa.—The Sewer Committee, Oct. 12, awarded contract for the construction of a sewer pipe line of 16-in. c. i. pipe on Ferry st. to J. L. Wickhiser at \$2.70 per lin. ft. and \$1.90 per sq. yd. for rock excavation if there is any. There was but one bid; the contract had been originally awarded to the Pascoe Construction Co. at their bid of \$2.40 per lin. ft., but owing to the advance in price of c. i. pipe the company stated that the cost would be \$200 more and accordingly threw up the contract. Total cost of work about \$1,400.

Turtle Creek, Pa.—Contract for constructing a sewer on Oak ave. was let to E. R. Smith; work will begin at once.

Washington, Pa.—Bids for the construction of a sewer on Thayer st. were opened by Council and the contract was let to William Pickett & Co., the lowest bidders, at \$2.10 per lin. ft.; the contract for filling was also let to the same company at 30c. per cu. yd.; other bidders were: Hallam Construction Co., sewer, \$4.50 per lin. ft.; filling, 32c. per cu. yd. J. K. Lawson, sewer, \$3.45 per lin. ft.

Providence, R. I.—Contract has been awarded by Board of Contract and Supply to Charles Crankshaw for the construction of sewers in Somerset, Gay and Darling sts., at \$4,469.

Seattle, Wash.—The contract for the Connecticut st. trunk sewer was awarded to the Sparger Concrete Co. for \$124,151, an amount \$619.80 higher than the bid of C. W. Colt & Co.; this firm, in filling a certified check, made an error of \$26.56 in computation and the check was held to be insufficient and the contract awarded to the next highest bidder.

Racine, Wis.—The bids for the building of a sewer outfall in English st. were as follows: Racine Cement Walk Co., \$986; E. R. Harding Co., \$1,150; N. F. Reichert Co., \$875; R. R. Birdsall Co., \$880; A. Thomson, \$873.54; Anderson & Johnson, \$982; contract was awarded to the N. F. Reichert Co.

Barrie, Ont., Can.—Bids were opened

Sept. 30 for constructing the outfall works, including sedimentation tanks, sludge beds, etc., for Wards 5 and 6, Allendale, sewerage system now under construction, and the contract has been awarded to A. C. Stewart & Co., of Winnipeg, Man., for \$14,500.—C. H. & P. H. Mitchell, Traders' Bank Bldg., Toronto, Engineers; E. Donnell, Town Clerk.

WATER SUPPLY

Beatty, Ark.—H. S. Hanna will bring water from a concrete basin near this village into village.

El Centro, Cal.—City is having plans prepared for municipal water works system.

Napa, Cal.—Napa City Water Co. has decided to issue \$100,000 bonds; part will be used for improvements.

San Francisco, Cal.—Plans are nearly completed for construction of Rincon Hill pumping station and for Ashbury st. distributing reservoir.

Santa Rosa, Cal.—Council is considering issuance of \$500,000 bonds for municipal improvements, including new system of water mains.

Fort Logan, Colo.—Plans are now being prepared for \$90,000 reservoir for supply to the Fort.

East Alton, Ill.—Village Council will consider installation of water works system.

Galesburg, Ill.—Water Committee will soon make report on water situation; city will employ consulting engineer.—Alderman McFarland, Chairman.

Joliet, Ill.—Council has passed ordinance for constructing water main on Meda ave.; cost \$975.74.—Wm. S. Welch, Clerk Board of Local Improvements.

Knightstown, Ind.—Board of Trustees of Knightstown Soldiers and Sailors Orphans' Home is considering construction of water works.

Osceola, Ia.—City has decided to rebuild reservoir dam and will make improvements.—Chas. P. Chase, Chase Bldg., Clinton, Consulting Engineer.

Lucas, Kan.—Bids invited about Oct. 26 for construction of water works and an electric light plant; cost \$30,000.—J. S. Worley & Co., Kansas City, Mo., Engineers; H. W. Wilcox, Mayor.

Mount Valley, Kan.—Bids have been invited for supply and distribution of water to city.

Pittsburg, Kan.—City will extend water mains to the west part of the city.

Sabetha, Kan.—Plans have been prepared by Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., for water works plant; citizens will vote Nov. 2 on \$65,000 bonds.

Wichita, Kan.—City will extend water mains in South Lawrence and South Topeka aves.

Dayton, Ky.—Council has adopted resolution instructing the Attorney to draw up an ordinance calling for bids on 20-year franchise to furnish city with water for all purposes, the construction of mains and installation of meters; Bellevue Water, Fuel & Gas Company has franchise with city which does not expire for two years, but it is claimed that the immediate consideration of new franchise is necessary.

New Orleans, La.—Bureau of Yards and Docks, Navy Department, Washington, D. C., did not receive any bids for construction of one 50,000 and one 20,000-gal. water tank at the U. S. Naval Station at this city.

Takoma Park, Md.—Councilman Grabill has informed Council that plans and estimates for construction of new filtration plant were being received, and requested additional time, which was granted; work of installing the water meters will be undertaken by Town instead of letting out by contract; Committee has been authorized to investigate and test process of a New York firm to demonstrate its value.

Framingham, Mass.—City has awarded \$40,000 water bonds to E. M. Farnsworth & Co. at \$100.47.

Winthrop, Mass.—Citizens have appropriated \$40,000 for the improvement of water facilities and for the firefighting service.

Bay City, Mich.—Complete rehabilitation of Bay City's water works plant, and construction of new intake, extending well into Saginaw Bay on the west side of the river, would cost in neighborhood of \$300,000, according to tentative estimate made to Special Joint Citizens and Aldermanic Committees by Superintendent Dunbar.

Mt. Pleasant, Mich.—City has \$6,000 available for water works improvements.

Calumet, Minn.—Plans are being prepared by Duluth Engineering Co., Palladio Bldg., Duluth, for system of water works; cost \$10,000.

Duluth, Minn.—Water and Light Commissioners reported to Council that L. N. Case, Manager, has notified them that he deems it necessary for Board to secure another \$100,000 bond issue for erection of a

5,000,000-gal. reservoir for middle system, and for other improvements.

Foley, Minn.—Village Council has rejected all bids for construction of water works; following were bids: William C. Frazier, \$10,125; Fairbanks, Morse Company, \$10,085; O. F. Doyle, Inc., \$9,985; W. D. Lowell & Co., \$10,150; Cook Construction Company, \$10,150.

Stillwater, Minn.—City has employed Oscar Claussen, Engineer, St. Paul, as expert to advise Committee appointed to investigate municipal ownership of water works.

Ackerman, Miss.—City has selected X. A. Kramer, Magnolia, to prepare plans for construction of water works; reservoir to have capacity of 15,000 gallons; bids will be opened Nov. 2.

Kansas City, Mo.—Board of Water Commissioners has decided to erect reinforced pumping station near 10th st. and Minnesota ave.; also ordered bids for six miles of 6-in. pipe to extend mains in the western portion of the city.

Moberly, Mo.—City is having plans prepared for construction of water works; cost about \$150,000.

St. Joseph, Mo.—Council is considering ordinances providing for installation of water mains in four streets.

Vandalia, Mo.—Citizens will soon vote on construction of a water works system; estimated cost about \$25,000.

Armstead, Mont.—City is making preparation to pipe water from springs east of Redrock river.

Hamilton, Mont.—City is considering extension of water mains to Riverview addition.—W. A. Hayes, Chairman Committee.

Ulysses, Neb.—Citizens have voted \$12,000 for construction of water works.

Black River, N. Y.—City is having estimates prepared for water system; total cost \$26,979.

Croghan, N. Y.—State Board of Water Commissioners has decided to install water works system; water will be piped about four miles from Mosher Spring; cost \$29,000.

Newburgh, N. Y.—Finance Committee has authorized Mayor to advertise for bids for \$48,000 water works bonds.

Painted Post, N. Y.—Village has voted \$10,000 additional water bonds.

East Spencer, N. C.—Town is considering issuance of bonds for installation of water works system.

Reidsville, N. C.—Citizens have voted bonds for extension of water mains.

Bottineau, N. D.—City is considering extension of water system over entire city; additional mains are proposed on several streets.

Fargo, N. D.—Citizens will vote Oct. 26 on \$65,000 bonds for installation of new water plant, including filtration system.

Amherst, O.—City has granted W. H. Schott, Chicago, Ill., franchise for water works.

Crestline, O.—Council has passed ordinance providing for issue of \$6,000 bonds for enlarging pumping station.

Dayton, O.—City will lay seven miles of mains this year.

Defiance, O.—Bids will soon be received by Board of Public Service for water franchise, calling for filtration plant; if bids are unsatisfactory, a municipal plant will be built.—Carl Smith, City Engineer.

Lewisburg, O.—Plans will be prepared by J. W. Hill & Son for construction of water works.

Newark, O.—City will purchase 750 tons of c. i. pipe.

Westerville, O.—Municipal Utilities Company, Columbus, proposes to replace present water works with 100,000-gal. stand pipe.—S. S. Weyer, Representative.

Grandfield, Okla.—Citizens have voted bonds amounting to \$28,000 for erection of water works system.

Oklahoma City, Okla.—Bids will be received Oct. 25 for the purchase of \$185,000 water works improvement bonds.—Robt. Farman, City Clerk.

Pryor, Okla.—Citizens have voted bonds for construction of a system of water works.—Archer & Rollins, Engineers, Beals Bldg., Kansas City, Mo.

Ryan, Okla.—City has selected F. H. Lancashire, 842 Wilson Bldg., Dallas, Tex., to revise specifications and do all engineering work in connection with construction of complete system of water works, electric light and sewers.—J. W. Borum, City Clerk.

Walters, Okla.—Council has accepted plans by O'Neal Construction Company for proposed water system; cost \$57,000; company will supervise work.

Vale, Ore.—Council has granted franchise to C. Carter authorizing him to construct system of water works.

Weston, Ore.—City proposes to improve water system by installing new pipes and building new dam and reservoirs.—T. S. McKinney, City Recorder.

Altoona, Pa.—Grand Jury has recommended that Directors of the Poor con-

struct water storage dam for use of institutions and for better fire protection.

Canonsburg, Pa.—Council has authorized Borough Solicitor C. W. Campbell to institute proceedings against North Strabane Water Company to compel it to furnish filtered water to its patrons within borough.

Chester, Pa.—Council has decided to extend water mains out State road in order to supply citizens of Upper Providence Township.

Pittsburg, Pa.—Council is considering bill authorizing bids for laying water pipe lines on eight streets; cost \$20,000.

Pittsburg, Pa.—Select Council has passed bill authorizing the Mayor to contract for water supply to sections of south side.

Steelton, Pa.—Council has passed resolution calling for \$950 expenditure for erection of boiler room and a laboratory at filter plant.

Rock Hill, S.C.—Rock Hill Water & Electric Co., incorporated with \$100,000 capital stock by R. T. Fewell and P. A. Willcox, will operate Rock Hill Water, Light & Power Co.'s plant, recently purchased by Martin Maloney, Philadelphia, Pa.; both water and light plants to be improved and capacity of each increased.

Dallas, S. D.—Citizens have voted \$15,500 bonds for extension and improvement of water works system.

Hermosa, S. D.—City will install permanent water works system.

Belvidere, Tenn.—City is considering construction of water works system.

Dallas, Tex.—Board of Municipal Commissioners has determined to sink artesian well near Turtle Creek pumping station to the depth of the Trinity sands, about 3,000 ft., with view to establishing artesian auxiliary to present surface storage system of public water.

Ennis, Tex.—Citizens have voted \$12,000 additional water works bonds.

Henefer, Utah.—Company has been formed by Wm. F. Cromer, A. E. Richins, R. A. Jones and others to construct water works; capital \$10,000.

Springville, Utah.—Citizens are in favor of establishment of water works.

Alexandria, Va.—Alexandria Water Company will extend its mains to suburb of St. Elmo.

Martinsville, Va.—Citizens have voted \$35,000 bonds for water works improvements.

Norfolk, Va.—Board of Control has requested \$12,000 appropriation with which to investigate new source of water supply.

Burlington, Vt.—Water Superintendent J. F. Kidder will visit various cities in Massachusetts to investigate pumps, such as one it is proposed to install on high service in this city.

Wheeling, W. Va.—Plans have been prepared by J. Richard Kommer, Milwaukee, Wis., for new building in which 20,000,000-gal. pump is to be installed.

Green Bay, Wis.—Council has decided to lay water mains on Jefferson st.

La Crosse, Wis.—Mayor Ori Sorensen will recommend construction of concrete settling basins in new levee park; estimated cost \$70,000.

Madison, Wis.—Secretary E. B. Steensland, of the Board of Water Commissioners, has been instructed to advertise for bids for constructing a pump house; plans by Chas. B. Stewart, Civil and Hydraulic Engineer.

Montreal, Que., Can.—Bids will be received for an electrically driven water works pump with a capacity of 1½ million gals. per day for the Saraquay Electric & Water Co., and for six 250 k.w. and three 500 k.w., 11,000 volt transformers.—Chas. Brandeis, Engineer, 4 Phillips pl.

Toronto, Ont., Can.—City has decided to extend water mains on nine streets.

BIDS RECEIVED AND CONTRACTS AWARDED

New Britain, Conn.—Water and Advisory Boards have approved letting of contract for 8,000 ft. of 16 and 20-in. pipe for installing the standpipes in the northwest section of the city to R. D. Wood & Co., Philadelphia, Pa.

Eagle, Colo.—Bids have been opened by Board Town Trustees for labor and furnishing material, including pipes, castings, hydrants, valves and reinforced concrete distributing reservoir, for complete construction of a system of gravity water works, and contract has been awarded to H. B. Ikeler, of Glenwood Springs, for \$21,890. Other bids received were: Holme & Allen Co., Grand Junction, \$27,941, and Lunsden & Gordon, Grand Junction, \$27,929.—T. W. Jaycox, Denver, Engineer; L. R. Thomas, Town Clerk.

Grand Valley, Colo.—Contract for constructing water works, bids opened Sept. 15, has been awarded to Fisher Dempsey Construction Co., of Pueblo, for \$27,600. A. Havemyer, President Public Service Corporation.

Jacksonville, Fla.—The Board of Bond Trustees, on October 12, awarded to the U. S. Cast Iron Pipe and Foundry Co. the contract for the supplying of 1,000 ft. of 12-in. c. i. pipe, 2,000 ft. of 10-in. class C; 3,000 ft. of 8-in., 18,000 ft. of 6-in., class B, and about 8 tons of special casting, all of which is to be in conformity with the standard specifications of the American Waterworks Association.

Bids were submitted as follows:
United States Cast Iron Pipe & Foundry Co., Chattanooga, Tenn., 12-in. pipe, \$24.70; 10-in., \$24.70; 8 and 6-in., \$24.70; special castings, \$48 per net ton of 2,000 pounds, delivered at Jacksonville. R. D. Wood & Co., Philadelphia, Pa., \$25.50 per ton of 2,000 pounds, all sizes, of c. i. piping and fittings. American Cast Iron Pipe Co., Birmingham, Ala., 12-in., \$24.90; 10-in., \$24.90; 8-in., \$25.90; 6-in., \$25.90; special castings, \$53 per ton. A bid was also received from the Dimmick Pipe Co. The bid, however, was not sealed and was therefore rejected.

Jacksonville, Fla.—Following are bids opened by Board of Trustees October 4, for construction of a new 10-in. artesian well, 880 ft.; Houghes' Specialty Well Drilling Co., of Charleston, S. C., \$3.50; Sydnor Pump & Well Co., of Richmond, Va., \$4.95, and Southern Contr. Co., of Lakeland, Fla., \$3.50.

East Moline, Ill.—Moline Heating & Construction Co., Moline, has secured contract for laying water mains in Factory ave., at \$8,698.

Freeburg, Ill.—Bids were opened October 4 for improvement and extension of water works from plans of Harper Bros., 21 North Main st., East St. Louis, Ill., and contract has been awarded to Howard H. Hall, Sexton Bldg., East St. Louis, as follows: A steel tank and tower, \$4,275; 840 ft. 8-in. c. i. pipe, including specials, 95c.; and 1,760 ft. 4-in. c. i. pipe, 61c.; 5 two-way hydrants, \$24.90, and 150 ft. old 4-in. pipe taken up, 15c.; total, \$6,294. Six bids were received from Charles A. Stookey, C. E. Slocum and P. J. Ralph, of Belleville; Mr. Hall, the Des Moines Bridge and Iron Co., of Des Moines, Ia., and the Acme Boiler & Construction Co., of Canal Dover, O. The last two concerns, however, bid only on the tank and tower; the total cost under each contractor's proposal was estimated as follows: Hall, \$6,293.60; Stookey, \$6,492.50; Slocum, \$6,636; Ralph, \$6,799.20.

South Bend, Ind.—William Downes was awarded the contract for the water connections on Laporte ave. and Wilbur st. and Howard ave.

Kensington, Kan.—T. C. Brooks & Sons Co., of Jackson, Mich., have secured contract for constructing water works, bids opened October 6; they bid, engine and pump, \$1,840; 6, 4 and 2-in. pipe, 81c to 27c. per ft.; tank and tower, \$4,685, etc.—Geo. P. Taylor, Stockton, Engineer.

Lawrence, Mass.—Out of eight competitors, Charles Millar & Sons Co., of Boston, were awarded the contract by the Water Board to supply 1,200 ft. of 12-in. pipe for \$24.10 per net ton, and c. i. bell and spigot specials for same, 2½c. per pound, all delivered f. o. b. cars Lawrence in carload lots, which was the lowest bid. The following bids were received: Builders' Iron

Foundry, of Providence, R. I., 1,200 ft. of 12-in. B. & S. c. i. pipe, at \$27.70 per ton; M. J. Drummond & Co., New York, \$26.50 per ton; U. S. Cast Iron Pipe and Foundry Co., New York, \$25.30 per ton; Donaldson Iron Co., Philadelphia, \$25.47; Lynchburg Foundry Co., Va., \$25.85 per ton; R. D. Wood & Co., Philadelphia, Pa., \$25.45; Charles Millar & Sons, Utica, N. Y., \$24.10.

New Bedford, Mass.—David Duff & Son was the only bidder for the contract of carting the 36-in. pipe to be used for the new distributing main from the High Hill reservoir. They agreed to cart the pipe and casting for \$2 per ton and received the contract on these figures, amounting to about \$10,200.

Winthrop, Mass.—Bids on steel stand-pipe, opened October 2, were as follows:

Bids Without Conditions.	Without Cornice	With Cornice
Reeves Bros. Co., Alliance, Ohio	\$17,400	\$17,645
Walsh's Holyoke Steam Boiler Works, Holyoke, Mass.	17,600	18,250
G. & W. Mfg. Co., New York	(no bid)	19,433
Hodge Boiler Works, East Boston	19,883	20,139
Canton Boiler & Eng. Co., Canton, O.	22,000	22,500
Fore River Shipbuilding Co., Quincy	23,300	23,980
Bids With Conditions.		
(A) Reeves Bros. Co., Alliance, O.	\$16,200	\$16,445
(B) Tippet & Wood, Phillipsburg, N. J.	16,990	17,250
(C) Chicago Bridge & Iron Works, Chicago, Ill.	19,600	20,000
(D-1) Florence Iron Works, Florence, N. J.	20,300	21,000
(D-2) Florence Iron Works, Florence, N. J.	.....	16,500

Conditions.
(A) If time is extended to March 1, 1910.
(B) If time is extended to February 1, 1910.
(C) If time is extended.
(D-1) Various alterations in specifications.
(D-2) By their own specifications and plans. Wesley Tyler, C. W. Howard, W. A. Carstensen, Water Commissioners; Whitman & Howard, Engineers.

Bearcreek, Mont.—The Town Council has let the contract for the construction of mains to Martin McDonough; water will be taken from Bearcreek and McDonough is to begin work at once and have the system in readiness for turning the water in within the next 60 days.

Comstock, N. Y.—Bids have been opened by C. V. Collins, Superintendent of State Prisons, Capitol, Albany, October 5, for a water supply system at the Great Meadow Prison, Comstock, as follows: M. Fitzgerald, Hoosick Falls, \$31,375; McArthur Co., N. Y. City, \$48,484; Kingsbury Construction Co., Sandy Hill, \$57,541.

Geneseo, N. Y.—Andrew Brown has been awarded the contract for digging the ditch and laying a 1½-in. galvanized pipe from the fountain on Main st. to the watering trough on Temple Hill, a distance of 2,700 ft., at \$674, and there were several other bidders.

Portland, Ore.—Recapitulation of bids for reservoirs at Mt. Tabor; No. 5, 50,000,000-gals. capacity, and No. 6, 75,000,000-gals. capacity, opened by Water Board Oct. 4.—D. D. Clarke, Engineer.

	Robert Wakefield & Co., Portland, Oregon, Awarded Contract	Northwest Bridge Works, Portland, Oregon	Pearson Const. Co., Portland, Oregon	Grant Smith & Co., Spokane, Washingt'n	Celilo Const. Co., Portland, Oregon	United Engr. & Const. Co., Portland, Oregon
210,000 cu. yds. earth excavation.	\$0.43	\$0.35	\$0.64	\$0.60	\$0.425	\$0.665
30,000 " " rolled embankment	.15	.25	.28	.10	.60	.475
19,500 " " replacing top soil.	.50	.30	.53	.40	.60	.75
4,880 " " concrete, Class A.	7.80	10.00	9.95	11.00	12.00	12.75
3,790 " " concrete, Class B.	7.80	12.75	9.78	11.00	12.00	12.25
1,080 " " concrete, Class C.	6.65	8.00	8.60	10.50	12.00	12.00
2,700 sqs. waterproofing.	2.00	1.00	1.25	.30	1.00	3.50
1,700 sq. yds. concrete walk.	1.50	1.50	1.10	1.00	1.10	1.50
435,000 lbs. steel reinforcement.	.035	.04	.0425	.04	.06	.04
44,000 lbs. iron work, erection.	.015	.015	.02	.015	.08	.025
240 tons pipe, setting.	25.00	6.00	35.00	80.00	40.00	25.00
675 lin. ft. tunnel.	25.00	45.00	19.00	20.00	25.00	30.00
Total, Reservoir No. 5	\$226,068.00	\$247,737.50	\$293,882.70	\$296,780.00	\$296,615.00	\$346,882.50
230,000 cu. yds. earth excavation.	\$0.30	\$0.24	\$0.45	\$0.55	\$0.35	\$0.36
126,000 " " rolled embankment	.08	.20	.25	.10	.40	.22
5,000 " " replacing top soil.	.50	.20	.45	.40	.60	.75
10,830 " " concrete, Class A.	7.80	10.00	9.50	10.00	11.00	11.50
2,130 " " concrete, Class B.	7.80	12.50	9.25	10.00	11.00	11.25
960 " " concrete, Class C.	6.65	8.50	8.25	9.50	11.00	11.00
5,800 sqs. waterproofing.	2.00	1.00	1.25	.30	1.00	3.50
2,700 sq. yds. concrete walk.	1.50	1.50	1.00	1.00	1.10	1.35
265,000 lbs. steel reinforcement.	.035	.04	.04	.04	.05	.04
31,000 lbs. iron work, erection.	.015	.015	.015	.015	.08	.025
170 tons pipe, setting.	25.00	6.00	32.00	80.00	30.00	25.00
Total, Reservoir No. 6	\$218,692.00	\$245,940.00	\$294,328.75	\$308,925.00	\$316,620.00	\$312,907.50
Total, Reservoirs Nos. 5 and 6.	\$444,760.00	\$493,677.50	\$588,211.45	\$605,705.00	\$613,235.00	\$659,790.00

Niagara Falls, N. Y.—The Water Commission received three bids for the pumping stations, and pure and raw water basins, and Smith Bros., city, being low at \$50,485, secured contract; other bidders were Brass Brothers, \$52,712.50, and W. J. S. Cowdrick & Co., \$53,403.58.

Forest Grove, Ore.—Council has awarded contracts for nine miles of 10-in. wooden piping for the new gravity system to Western Water Pipe Co., of Portland, for \$21,536.

Sal. Lake City, Utah.—Contract for constructing the North Temple st. aqueduct across West Temple, First West and Second West sts. has been awarded to McKay & Reed, \$6,847.

Madison, Wis.—The Board of Water Commissioners will purchase a four-stage deep well pump from the American Well Works Co. for \$1,900, and a 75-h.p. variable speed motor from the Fort Wayne Electric Co. for \$1,325.

Sheboygan, Wis.—Geo. Green, of Milwaukee, has been awarded contract for constructing 300 ft. of 12-in. pipe in submarine river crossing at \$16.50 per ft.; the Starke Dock Co., Milwaukee, bid \$20.—Theo. Dieckmann, President Water Board.

Yorktown, Sask., Can.—Municipal Construction Co., of Regina, has secured contract for water works improvements; cost about \$15,000.—F. T. McArthur, City Engineer.

LIGHTING AND POWER

Bessemer, Ala.—Bessemer Gas Co. has decided to petition Council for franchise to operate an electric light plant.

Chico, Cal.—Manager Lee Richardson, of Richardson Springs, has returned to this city from Sacramento and Stockton where he had gone to consult with managers of natural gas plants at those cities relative to installation of similar system at foothill resort.

Fresno, Cal.—Wm. S. Douglas and C. M. Russell have filed notice for appropriation of 15,000 ft. of water from Fish Creek to carry water by tunnel 2½ miles from a diversion dam to junction of Great Bluffs with middle fork of San Joaquin River; also for a dam and reservoir site.

Menlo Park, Cal.—Citizens are urging formation of lighting district.—John McBain, Chairman Committee.

Oakland, Cal.—Council has granted Great Western Power Company franchise for electric power lines.

Oroville, Cal.—Sacramento Valley Power Company has applied to Board of Supervisors for franchise to erect and maintain electric power line over the public roads of Butte County.

Pacific Grove, Cal.—Franchise for proposed power and light line to be extended from Monterey to Salinas by Monterey County Gas and Electric Company has been asked for by Manager W. H. P. Hill and Attorney R. H. Willey; length of transmission will be 30 miles and will supply light to Castroville and furnish power to pumping plants in that locality.

Red Bluff, Cal.—Sacramento Valley Power Company, through its attorney, A. M. McCoy, has made application to Supervisors for franchise and the same was granted.

Riverside, Cal.—Council has approved recommendations for installing ornamental street illumination in business section, covering eleven blocks; reinforced concrete poles will be adopted.

Enfield, Conn.—Town has voted \$7,000 for lighting street and public places of Thompsonville, Hazardville and Enfield.

New Haven, Conn.—Resolution has been passed empowering Lighting Committee to secure bids and make arrangements for new gas, naphtha and arc lighting contracts, as present contracts expire December 31.

St. Petersburg, Fla.—St. Petersburg Investment Co. will rebuild electric light plant and install generators and engines.—H. W. Fuller, President.

Atlanta, Ga.—Finance Committee is considering \$500 appropriation for a "white way" along Peachtree and Whitehall sts.

Augusta, Ga.—Council has granted Georgia-Carolina Power Co. a franchise to do business in the city of Augusta; franchise is about same as the franchise which was passed by Council for the Twin City Power Co.

Blanton, Ga.—Chattahoochee River Power Co. has been incorporated by B. H. Hardaway, T. A. Jamison, George A. Pearce, Richard W. Needham and others, all of Columbus; company will construct dam; estimated cost of initial dam, power house and transmission lines \$400,000.—J. E. Sirrine, Greenville, S. C., Engineer in Charge.

Macon, Ga.—Mercer University will install electric light plant.

Aurora, Ill.—Plans are being prepared for improvements to municipal electric light plant; new machinery will be installed.

Granite City, Ill.—Granite City Gas Light & Fuel Co. is receiving bids for erection of two-story gas plant.

Moline, Ill.—Tri-City Railway & Light Company is considering construction of gas plant; cost about \$500,000.—J. F. Porter, President.

Bedford, Ind.—Franchise has been granted to Bedford Power Company, which proposes to build dam over White River at Williams to furnish electric power for city; grant is for 50 years and conditions are that work in substantial manner must actually begin within six months.

Monroe, Ind.—Citizens are urging establishment of electric lights.

Colo, Ia.—Colo Lighting Co. purchased Carver lighting plant; it will make improvements and light town.—J. E. Morrell, President.

Pocahontas, Ia.—City is considering establishment of electric light plant.

Wellsburg, Ia.—Construction of electric light plant is being considered.

Nickerson, Kan.—Citizens will again vote, Nov. 2, on \$35,000 bonds for establishment of municipal electric light and water works plant.

West Point, Ky.—Natural gas franchise has been acquired by W. E. Bumgardner, Ekron, who is to deepen wells already in operation, put in new tubing, lay new mains and drill new wells if necessary; entire town will be supplied with gas for heating and lighting purposes.

Grand Rapids, Mich.—The Grand Rapids-Muskegon Power Company has applied to State Railway Commission for permission to issue \$75,000,000 bonds for developing its property.—George L. Erwin, Secretary.

Negaunee, Mich.—Cleveland Cliffs Iron Co. has completed plans and specifications for a dam, flume and water wheels for new hydraulic plant.

Mankato, Minn.—City is still considering construction of municipal electric light plant.

St. Paul, Minn.—St. Paul Gas Light Company is considering increase of output of electric generating plant; machinery to cost about \$50,000 will be installed.

Winona, Minn.—Installation of independent light and power plant is being considered.

Ackerman, Miss.—Citizens have voted bonds for construction of electric light plant.

Buffalo, Mo.—Big Naungua Power Co. has been incorporated with \$490,000 capital stock by Irvin Phillips, A. W. Martin, W. C. Clayton and others.

King City, Mo.—City is considering installation of electric lighting system.

Hamilton, Mont.—City is considering establishment of electric lights in Riverview addition.—W. A. Hayes, Chairman Committee.

Sterling, Neb.—Establishment of an electric light system, by formation of company to take up another, is being considered.

Glen Ridge, N. J.—Citizens are urging improvement of lighting system.

Rincon, N. M.—City has granted William Palmer, Jr., franchise to construct and operate an electric light plant.

Brooklyn, N. Y.—Directors of Kings County Electric Light and Power Company have voted to recommend to stockholders authorization of \$5,000,000 issue of bonds.

Johnstown, N. Y.—Fulton County has awarded \$70,000 highway bonds to I. W. Sherrill at par.

Niagara Falls, N. Y.—Electric Heating and Lighting Company is planning to locate plant at north end of city.

Albemarle, N. C.—City has selected J. M. Bandy, Greensboro, as Designing and Consulting Engineer for proposed water works, sewerage and lighting.

Bellefontaine, O.—Quincy Council has granted franchise to Pressed Steel Car Co., which will install electric light plant to light village streets.

Dayton, O.—Council has approved report submitted by City Engineer Cellarius for installation of proposed boulevard lighting system; cost \$33,680.

Defiance, O.—Board of Public Service will soon advertise for bids for electric light franchise; if bids are unsatisfactory, a municipal lighting plant will be built.—Carl Smith, City Engineer.

El Reno, Okla.—H. M. Bylesby & Co., owners of local electric and gas plants, intend to extend gas and electric service to every part of city.

Mulhall, Okla.—Electric light plant will be installed in near future.

Tulsa, Okla.—Petitions will be circulated immediately by friends of proposed State Pine Line demanding law to provide \$2,500,000 to build line from Nowata, Okla., to Galveston; distance over 410 miles.

Walter, Okla.—Council has accepted plans by O'Neal Construction Company for proposed lighting system; cost \$7,000; company will supervise work.

Dallastown, Pa.—Special Committee to investigate feasibility of establishing elec-

tric lighting plant have made favorable report.—J. T. Green, President.

Reading, Pa.—Council has passed resolution directing Police Committee to report specifications for street lighting for periods of one, three and five years, beginning April 4, 1910.

Watson, Pa.—Bids will be received by Borough for water-tube boiler and a steel chimney.

Delmont, S. D.—City is considering installation of electric light plant.

Memphis, Tenn.—Council Committee Engineer is consulting with Thos. B. Whitted, Charlotte, N. C., relative to proposed electric light plant; issue of \$1,000,000 bonds considered.—P. J. Moran, Chairman.

Chehalis, Wash.—Wm. McArthur, Tenino, has petitioned for franchise for operating gas plant.

Tacoma, Wash.—Plans have been completed for power sub-station to be erected at South 24th and Adams sts.

Petersboro, Ont., Can.—Otonabee Power Co. has applied to city for 20-year franchise; if granted \$250,000 will be spent in uniting two dams.

Revelstoke, B. C., Can.—Extension and improvement of power plant is being considered.

Sydney, N. S., Can.—Council has requested Cape Breton Electric Company to make number of extensions to both its railway and lighting systems.

BIDS RECEIVED AND CONTRACTS AWARDED

Little River, Cal.—The Little River Redwood Lumber Co. has awarded contract for installation of an electric light plant at its plant to Eureka Electrical & Construction Co., of Eureka.

Los Angeles, Cal.—Board of Supervisors has awarded contract for lighting new district of East Hollywood for a term of five years to Pacific Light & Power Co.—E. A. Beck, Superintendent.

Danbury, Conn.—Lewis A. Miller, of Meriden has been awarded contract by Lee-McLachlan Co. to build a power house in connection with the company's plant; cost \$30,000.

Baltimore, Md.—Board of Awards, October 6, has awarded to American Street Lighting Co., city, contract, at \$10.10 each, for maintaining 7,333 gas lamps, and \$26 each to supply naphtha and maintain 1,030 naphtha lamps for the year beginning March 10, 1910.

Detroit, Mich.—Gould Storage Battery Co. of Depew, N. Y., and 341 5th ave., New York, has been awarded contract by the Michigan Central Railroad Co. for furnishing and installing the regulating battery equipment for electrical operation of the Detroit River tunnel.

LeSueur, Minn.—Bids have been opened by Jas. A. Morgan, City Clerk, October 1, for a Corliss heavy duty engine, 16x36 in., to drive alternating-current generator, and contract has been awarded to the Bates Machine Co., of Joliet, Ill., for \$2,398.

Hannibal, N. Y.—Wm. Stock, who has a franchise for lighting the village, has contracted with the Oswego River Power Transmission Company for current from Niagara.

Genoa, O.—The Village Council has entered into a contract with the Toledo, Port Clinton & Lakeside Railway Co. to light the town with electric lights; there will be 20 arc lamps distributed through the streets.

Springfield, O.—The contract between the city and the Springfield Light, Heat & Power Co., by which the company will light the city streets, has been signed; the company will now go after the remainder of the street lighting, which at present is done by the gas company and expects to secure this also. The contract just signed means a revenue of not less than \$26,000 a year to the company for 10 years and the additional lighting contract would add from \$14,000 to \$16,000 a year to this.

Youngstown, O.—The Court House Building Commission has awarded contract for gas and electric light fixtures for new Court House to the Marreau Lighting Fixture Co., Cleveland, for \$18,500.

Harrisburg, Pa.—Councils have let contracts to the Harrisburg Light, Heat and Power Co. and the Paxtang Electric Co. for the lighting of the Mulberry st. viaduct, the subways and the filtration plant, and \$1,488.64 additional will have to be appropriated; the contract for lighting the bridge was given to the Harrisburg Co., as was also the contract for the lighting of the filtration plant; the Paxtang Co. got the contract for the lighting of the subways; the city offices are lighted free by the Paxtang company.

Montpelier, Vt.—The Corry-Deavitt-Frost Co. has awarded to D. W. Cooley, of Waterbury, contract for the construction of concrete dam, 150 ft. long and 12½ ft. high, with a fall of 30 ft., gates to penstock and

foundation for power house of plant No. 2, to be located 2,000 ft. above present plant at Kinney's Mills; capacity of power plant, about 1,000 h.p.

Morrisville, Vt.—Village has voted to instruct the Water and Light Commissioners to sell electric power to the Mount Mansfield Electric Railroad at Stowe, and electricity to the village of Stowe for lighting purposes, at \$30 per h.p., with a minimum of \$2,500 per year.

Metaline, Wash.—Contract for construction of power development plant for Lehigh Valley Cement Co. has been awarded to Sylvester Engineering Co.; new plant will develop the power of Sullivan Creek and Sullivan Lake and will be located at the confluence of the creek and the Pen d' Oreille River, just above Metaline Falls; cost about \$350,000.

Niagara Falls, Ont., Can.—The Hydro-Electric Commission has awarded the final tenders in connection with the transmission lines, the transformer stations and all the mechanical equipment; these were for electric cranes for the transformer stations; for Niagara Falls and Dundas the successful firm was Royce, Limited, of Manchester, England; Mussels Limited of Montreal, and Walkerville will supply the cranes for the stations at Toronto, London, Guelph, Preston, Berlin, Stratford, St. Mary's, Woodstock and St. Thomas. The amount of the tenders was \$17,094.

FIRE EQUIPMENT

Birmingham, Ala.—Fire Committee has recommended petition of Alabama State Fair Association for hose, reel, horse and firemen.

Pratt City, Ala.—City will spend \$2,000 for combination apparatus to consist of hose, ladder and chemical equipments.

Los Angeles, Cal.—City has had plans prepared for erection of engine house on Hewitt st.

Oakland, Cal.—Council has passed, to print, bill authorizing Board of Public Works to purchase fire hose, fire engines, horses, etc., for fire department.

San Francisco, Cal.—Chief Engineer Shaughnessy is urging installation of better fire alarm system.

Allington, Conn.—Local hose company has voted to purchase 1,000 ft. of hose.

Enfield, Conn.—Town has voted \$1,600 for water for fire protection, cemeteries and tanks.

Washington, D. C.—Plans are being prepared for engine house on G st.—H. B. Macfarland, District Commissioner.

Macon, Ga.—Council is considering purchase of motor-driven apparatus.—Harry Robert, Chairman Fire Committee.

Rome, Ga.—City has decided to install additional fire protection.

Indianapolis, Ind.—Council will again consider \$5,800 appropriation for purchase of fire engine.

Monroe, Ind.—Citizens are urging formation of fire department.

Richmond, Ind.—Architect Jno. A. Hase-coster has prepared plans for \$5,000 hose house.

Vincennes, Ind.—Citizens of southern end of city are urging purchase of Webb motor fire engine.

Topeka, Kan.—City is considering purchase of chemical and hose wagon.—G. O. Wilmarth, Fire Chief.

Alexandria, La.—Board of Aldermen has purchased site for erection of station for Hose Company No. 2.

New Orleans, La.—Council is considering erection of engine house in Tenth Ward.

Baltimore, Md.—Enlargement of Roland Park paid fire department is being considered by Directors of Roland Park Civic League, the committee on the volunteer fire department of that organization having recommended it; new steamer may be purchased.—Dr. Henry P. Hynson, President.

Athol, Mass.—Council is considering \$1,000 expenditure for new hose.

Boston, Mass.—Board of Aldermen will consider \$15,000 appropriation for fire station on Lauriat ave.

Halifax, Mass.—Town has organized new fire company.—J. B. Baker, Captain.

Lynn, Mass.—City is considering purchase of auto for Fire Chief Harris.

Milton, Mass.—Town has voted to purchase automobile for Chief of Fire Department.

Nahant, Mass.—Town has voted to purchase auto truck for Bass Point; cost \$3,000.

Templeton, Mass.—Town will vote Oct. 30 on erection of engine house.

Calumet, Minn.—Architects F. L. Young & Co., Duluth, have prepared plans for fire hall.

Duluth, Minn.—Council has appropriated \$2,800 for repair of No. 2 fire hall, also ordered Fire Board to let contract for addition to fire hall at 1st ave. East and 3d st.

Minneapolis, Minn.—R. Canterbury, Chief

Fire Department, has asked for \$9,000 for fire alarm telegraph system; \$1,200 for hose and nozzles, two hook and ladder trucks, two combination chemical and hose wagons and three new steamers.

Brookhaven, Miss.—Committee has been appointed to select site for proposed fire station.

Springfield, Mo.—Citizens are considering bond issue for provision of additional fire-fighting equipment.

Concord, N. H.—Citizens living at distance from Central Station are asking for some apparatus in their district.

East Newark, N. J.—Borough Fire Department is urging erection of fire house.—Thomas Murray, Chief.

Essex Fells, N. J.—Essex Fells Fire Department is discussing plans for erection of temporary building to house fire apparatus until the construction of a large and more commodious place.

Gloucester, N. J.—Fire Committee has recommended erection of hose house on 2d st.

Newark, N. J.—Mayor Jacob Haussling, Fire Chief W. C. Astly and Board of Fire Commissioners have visited Trenton to inspect auto fire engine with view of purchasing like machine.

Trenton, N. J.—Fire Commissioners are considering improvement of fire headquarters on Ferry st.—Chas. Allen, Chief.

Woodbury, N. Y.—Fire Department is urging purchase of auto fire engine.

Binghamton, N. Y.—Hose company will be established in Sixth Ward.

Greenwood, N. Y.—Citizens are urging need of fire equipment.

Kenmare, N. Y.—Citizens are considering installation of up-to-date fire alarm system.

New York, N. Y.—Bids will be received by Fire Department Oct. 20 for completion of new annex and additions and alterations to present fire headquarters building.—N. J. Hayes, Fire Commissioner.

Staatsburg, N. Y.—Fire department will purchase up-to-date hook and ladder truck.

Biscoe, N. C.—Burt & Hicks desire to hear from manufacturers of chemical fire engines with capacity of 50 to 60 gallons.

Cleveland, O.—Citizens will vote Nov. 2 on \$150,000 bonds for fire engine houses and equipment.

Hamilton, O.—D. H. De Armond, Director of Public Safety, has recommended erection of fire stations in Fifth and Sixth Wards.

Oak Hill, O.—City is in need of fire protection.

Guthrie, Okla.—Council has authorized election on \$30,000 bonds for reestablishment of fire station on Capital Hill, purchase of modern fire equipment and street flushing machine.

Albany, Ore.—City is considering purchase of \$1,800 chemical engine.

Allentown, Pa.—Chief Cohn has informed Fire Committee that 5,000 ft. of new hose is needed.

Ambler, Pa.—Wissahickon Fire Company No. 1 is urging erection of fire house.—Dr. R. V. Mattinson is interested.

Connellsville, Pa.—Town Council is considering purchase of 1,000 ft. of hose.

Scranton, Pa.—City is considering installation of private fire alarm system furnished by American District Dispatch and Telephone Company.—R. G. Bone, Representative.

Woonsocket, R. I.—Council has adopted resolution appropriating \$15,000 to build fire station at Social and Elm sts.

Waco, Tex.—City has sold \$25,000 fire station and equipment bonds.

Norfolk, Va.—Finance Committee has recommended appropriation of \$10,000 for improvement of Queen st. fire engine house, following out suggestions of Chief McLaughlin.

Janesville, Wis.—City is considering purchase of motor fire engine.

BIDS RECEIVED AND CONTRACTS AWARDED

Baltimore Md.—City has reawarded contract for erection of truck house on Gorsuch ave. to James F. Farley, 43 Franklin Bldg.; cost \$25,000; plans by C. Montgomery Anderson, 324 North Charles st.

Pennington, N. J.—The committee appointed in March by the Fire Company to investigate several makes of gasoline fire engines has contracted with the Watrous Engine Works Co., of St. Paul, Minn., for the delivery in about 60 days of one of their No. 6 Special Class B engines, with special equipment and finish, of the committee's design. This engine will be equipped with a motor of from 35 to 40-hp. and guaranteed to pump at least 350 gal. of water per minute. Three separate systems of ignition are provided to avoid any possibility of failure to start promptly.

Butler, Pa.—The Fire and Building Committee of Council has awarded to Edward Weigand contract for construction of fire

station on West North st., his bid, about \$17,500, being the lowest.

Houston, Tex.—Fire Commissioner Kohlhauff has been given authority to purchase an automobile chemical engine from the Robinson Fire Apparatus Co., of St. Louis, to cost \$6,500.

ELECTRIC RAILWAYS

San Diego, Cal.—G. W. Pursell, General Manager of San Diego, El Cajon & Escondido Electric Railway, has purchased franchise sold by Council granting company permission to enter city for \$5,100.

Grand Junction, Colo.—Final surveys have been made for proposed trolley line from Grand Junction to Clifton and Fruita; construction work will start at once.

Torrington, Conn.—It has been announced that in spring work will be commenced on construction of trolley line from Torrington to Thomaston.

Athens, Ga.—Athens Electric Railway Company is now preparing to make important extensions on its line.

Macon, Ga.—The Macon Traction Co. has petitioned for a charter to build an electric railway from East Macon to Recreation Club, five miles distant.

Greensburg, Ind.—Mayor Thompson, Geo. Little and William Fleming are interested in construction of electric railway to Batesville; distance 16 miles.

New Albany, Ind.—Louisville, Blue River and French Lick Traction Company has filed articles of incorporation with view of constructing traction line from New Albany to French Lick and West Baden Springs; capital stock of the company is \$10,000, and incorporators are J. H. Fawcett, Charles D. Kelso and Walter A. Gadiant, all of New Albany.

Wabash, Ind.—Wabash County has voted \$50,000 subsidy to aid Wabash & Northern Indiana Traction Company in building its road from Wabash to North Manchester and Warsaw; Kosciusko County also voted \$7,500 to the same end.

Glasgow, Ky.—Citizens of Tompkinsville, Monroe County, are investigating proposition to construct electric railway to that place; it has decided to take matter up at once either with St. Louis capitalists who are now surveying route from Horse Cave to Burkesville by way of Metcalfe County or with the eastern capitalists who have already secured right of way through Hart, Barren and Larue Counties.

Skowhegan, Me.—Electric road is to be built from this place to Ansonia; distance 10 miles; preliminary survey is to be made at once by John A. Adams, Civil Engineer, of Lewiston.

Haverhill, Mass.—Manager Franklin Woodman, of New Hampshire Electric Railways, has received petition asking road to build line from foot of Saunders Hill to Rocks Village.

Detroit, Mich.—Detroit United Railways has asked permission of Michigan Railroad Commission to issue \$2,000,000 bonds in January, 1910, for liquidation of other indebtedness and for improvements.

Albany, N. Y.—Papers have been filed certifying to the consolidation of Hornellsville Electric Railway, Hornellsville and Canisteo Railway Company and the Canisteo Valley Electric Railroad Company, under the name of the Hornell Traction Company, with a capital of \$120,000, to operate in Steuben County. Directors include Charles Adsit, George T. Rahn and Milo M. Acker, all of Hornell.

Syracuse, N. Y.—Syracuse, Lake Shore Northern Electric Railway Co. has secured right of way for its proposed line between Fulton and Oswego.—William Nottingham, Attorney.

Hitchcock, N. C.—Hitchcock Railway Co. has secured all right of way for its electric railway, which will connect Catawba Springs, Newton, Brookford, Hilderbran and Cliffs; distance about 83 miles.—M. E. Thornton, Hickory, General Manager.

Akron, O.—The Northern Ohio Traction & Light Co. has authorized expenditure of \$225,000 for improvements to its property in 1910; of this \$100,000 is to be spent for new rolling stock, and \$125,000 for underground work and for general maintenance and betterment.

Alliance, O.—Stark Electric Railway Co. contemplates building branch extending from this city to Ravenna.

Astoria, Ore.—Astoria, Seaside & Tillamook Railway Co. will soon begin work on proposed Astoria, Seaside Trolley line.

Eugene, Ore.—Stephen Carver has made proposition to citizens of Eugene to build road from Eugene to Elmira, as first link of road to the Sluslaw, for bonus of \$40,000.

Portland, Ore.—Coos Bay & Inland Electric Company is securing right of way for electric railway from Roseburg to Marshfield.—Charles Ringler, Secretary and Treasurer.

Bedford, Pa.—Bedford, Fulton & Franklin Company has applied for charter to

build trolley line from Bedford to Chambersburg.

Greensburg, Pa.—Greensburg Council has been asked for a franchise for another trolley project, and ordinance for necessary provisions is being prepared. John B. Brunot, Frank Good and H. J. Brunot of Greensburg are associated with company of eastern men as petitioners for the franchise.

Royersford, Pa.—Charter has been issued to Royersford Interurban Traction Company, which is to build and operate four miles of track near Royersford; company is capitalized at \$25,000; Joseph Addison Buckwalter and R. Samana Raiser, of Royersford, and A. B. Eddows, W. W. Levering and W. H. Houston, of this city, incorporators.

Westchester, Pa.—New directory of Wilmington & West Chester trolley road has decided at once to start on resurvey of route and prepare drafts for construction work.

Memphis, Tenn.—Officials of Lakeview Traction Company, which was organized for purpose of building interurban lines connecting Memphis with Collierville and Covington, Tenn., on the north, and with Lakeview, Clarksdale and other points in Mississippi on the south, announce that work is to begin at once on construction of traction lines.

Walnut Springs, Tex.—The Glen Rose & Walnut Springs Railway Company has been chartered to construct an electric railway extending from Glen Rose to Walnut Springs; length 15 miles; Judge Sadler, J. H. Farr and others incorporators.

Norfolk, Va.—Norfolk and Portsmouth Traction Company will ask franchise to extend tracks along new streets.

Beckley, W. Va.—Survey will be made from this place to Winding Gulf, a distance of about 20 miles, for new trolley line; line will run through Fickham, Eccles, Lester and Glen White, thence up the Sockley Valley, across Soak Creek.

Cameron, W. Va.—T. B. Cox, Sherrard, is interested in project to construct electric railway between this city and Wheeling; distance 20 miles.

Fairmont, W. Va.—Fairmont & Clarksburg Traction Co. is considering construction of extension of eight miles from Clarksburg to Salem, W. Va.—George T. Watson, General Manager.

La Crosse, Wis.—President W. J. Ferris, of the La Crosse Water Company, has announced that a special meeting of Council will be called at which company will apply for franchise to enter La Crosse with an interurban electric railroad, to run from Winona, Minn., to Sparta, Wis., via La Crosse. Franchises will be asked for in Winona and Sparta simultaneously; road will cost \$2,000,000.

Merrill, Wis.—Chicago & Wisconsin Valley Railroad Co. has been organized to construct electric line to Janesville.

Barrie, Ont., Can.—John W. Moyses, of Toronto, Ont., has submitted proposition to Council to build electric street railway system, with radial lines to adjacent villages and settlements.

Brantford, Ont., Can.—The Brantford Street Railway Company has asked permission of Council to make certain extensions.

Lethbridge, Alta, Can.—Company is being formed to build electric street railway system with lines to adjoining settlements and towns.

BIDS RECEIVED AND CONTRACTS AWARDED

South Bend, Ind.—The South Bend & Logansport Traction Co., recently incorporated to build an interurban line from South Bend to Logansport, Ind., has closed contract with the Indiana & Michigan Electric Co., South Bend, for \$10,000 worth of wiring work and supplies; other contracts will shortly be closed.

Mexico, Mo.—The Mexico, Santa Fé & Perry Traction Co. has been awarded contract for construction of its interurban railway to Burns & Co., 705 Isabella Bldg., Chicago, Ill.; line is to extend south from Mexico to Columbia and Fulton, and north to Santa Fé, Perry and Hannibal; total, 103 miles; Burns & Co. will purchase all material and let all sub-contracts.—C. O. Thon, Chief Engineer.

Fairmount, W. Va.—Fairmount & Northern Traction Co. awarded contract to Robert and D. F. Talbot, local contractors, for construction of the trolley line from Fairmount to Fairview; distance 12 miles.

BRIDGES

Batesville, Ark.—Independence County has appropriated \$8,000 for construction of steel bridges.

Waldron, Ark.—Scott County Quorum Court has authorized construction of bridge at Waldron and Bates; \$8,000 is available.

Merced, Cal.—Board of Supervisors of Merced County has rejected all bids for construction of a steel bridge across Merced River.—P. J. Thornton, Clerk.

Pasadena, Cal.—Two separate sets of plans for two bridges across Arroyo Seco at west end of Colorado st. are to be prepared as a result of investigation by Highway Commission.

Red Bluff, Cal.—Committee, Surveyor Luning, Chairman, has been named to have soundings made and select location for new bridge over Sacramento River at Tehama.

Colorado Springs, Colo.—County Commissioners of El Paso County are considering construction of bridge to replace Doughty bridge on road to Canon City; three wooden bridges on road to Denver may be replaced by steel and cement structures.—B. A. Banta, Commissioner.

Enfield, Conn.—Town has voted \$10,000 for construction and repair of bridges and highways.

Augusta, Ga.—Augusta Township Commissioners are considering construction of bridge over Flower Creek on the Augusta and Plymouth rd.

Brunswick, Ga.—Glynn and McIntosh Counties will vote in November on \$50,000 bonds for erection of two combination bridges.

Fulton, Ill.—Citizens have voted \$5,000 bonds for construction of two bridges across the Cattail Drainage District south ditch.

Dover, Kan.—Board of Commissioners of Shawnee County is preparing plans for an 80-ft. span steel bridge.—V. R. Parkhurst, Engineer.

Salina, Kan.—Citizens of Elm Creek Township are urging construction of bridge across Saline River.

Topeka, Kan.—Plans are being prepared by Engineer J. P. Rodgers for 150-ft. addition to steel bridge at Kansas ave.; also for construction of a steel or concrete bridge at Fillmore st.; cost \$4,000.—C. B. Burge, City Clerk.

Lexington, Ky.—Joint Improvement Committee has received proposition from street railway company for construction of new bridge on Virginia ave. over Southern Railway.

New Orleans, La.—Streets and Landings Committee has passed favorably on plans and specifications prepared by City Engineer for construction of a combination roadway and railway bridge over the Orleans Canal on the line of City Park.

Ann Harbor, Mich.—Plans are being prepared by City Engineer for erection of two-span reinforced concrete bridge.

Minneapolis, Minn.—Theodore Wirth, Superintendent of Parks, has submitted plans for improvement to cost \$15,000; these include construction of stone bridge at foot of Minnehaha Falls.

St. Joseph, Mo.—Plans have been submitted to U. S. Engineers, Detroit, for construction of viaduct over Morison Channel.

Grand Island, Neb.—County Commissioners have decided to construct bridge over the Platte River.

Plattsmouth, Neb.—C. C. Parmele and Ralph Duff, of Nebraska City, are behind movement to build wagon bridge over Platte River at Oreapolis; cost \$12,000.

Atlantic City, N. J.—Final approval of site for proposed bridge between Somers Point and Ocean City, intended to form important link in the lower coast shore boulevard, has been completed at joint conference of the Boards of Freeholders of this and Cape May counties.

Belvidere, N. J.—The Warren County Board of Freeholders has decided to rebuild bridge over Pohatcong Creek at Washington, and also to build bridge over new road at Brass Castle.

Cicero, N. Y.—Town Boards of Cicero and Sullivan, N. Y., are considering construction of bridge at Bridgeport; estimated cost \$9,000.

Carthage, N. C.—Bids will be received Nov. 1 by Board County Commissioners for \$20,000 bridge bonds, part to be used for constructing bridges.—U. L. Spence, Chairman.

Barberton, O.—City Council and County Commissioners are considering construction of combination bridge on Wooster ave.

Bucyrus, O.—Crawford County Commissioners have decided to erect bridge over Whetstone Creek on North and South rd.; also two other bridges.—J. I. Smith, County Auditor.

Newark, O.—Licking County has sold \$36,000 bridge bonds to First National Bank of Cleveland at \$500 premium.

Tiffin, O.—H. B. Puffenberger, County Engineer, is preparing plans for erection of bridge.

Zanesville, O.—Muskingum County will repair or rebuild 5th st. bridge.—Donald Y. Geddes, County Surveyor.

Ada, Okla.—Pontotoc County is considering election on \$150,000 bonds for bridges and roads.

Ardmore, Okla.—Carter County bridge bonds, \$200,000, have been approved and work will start at once.

Pittsburg, Pa.—Contracts will soon be let for construction of a bridge over Negley Run Hollow, at Meadow st.; the structure will be 515 ft. long with 30-ft. roadway and 10-ft. sidewalk.

Princess Anne, Va.—Board of Supervisors did not let contract for constructing Blackwater bridge.—A. E. Kellam, Chairman.

Aberdeen, Wash.—Council has refused to pass ordinance granting new franchise to Union Pacific Railway Company to construct bridge across the Chehalis River.

Seattle, Wash.—Council is considering bill appropriating \$17,500 for construction of bridge across Salmon Bay Waterway at foot of 4th ave. N. W.

Huntington, W. Va.—Huntington Northern Railroad Co., West Virginia, will build bridge across Ohio; plans have been placed on file with United States Engineer at Cincinnati.

Waukesha, Wis.—Board of Public Works has recommended to Committee on Railroads and Bridges the repair of Madison st. and Broadway bridge.—John P. Dey, President.

Winnipeg, Man., Can.—Civic Board of Works has approved plans for new structure across Red River; cost \$125,000.—H. N. Rutlan, City Engineer.

BIDS RECEIVED AND CONTRACTS AWARDED

Red Bluff, Cal.—Bids for repairing the Sacramento River bridge at this place were opened by the Board of Supervisors, and Valentine Paul, one of the two bidders, was awarded the contract; Paul bid \$23 each for the joists and \$2,585 for the other work, while the Diamond Match Co. bid \$28.25 for joists and \$2,635 for the other work.

Willows, Cal.—Bids for the new bridge over Elk Creek were opened by the Board of Supervisors and the contract was awarded to Cotton Brothers, the lowest bidders, at \$2,500.

Mt. Vernon, Ind.—The County Commissioners have let contracts for five new bridges as follows: Vincennes Bridge Co., Knollman bridge, \$324; Highman bridge, \$239; Mainsheim bridge, \$600. Eigenman Co., Ridenour bridge, \$300. F. D. Werking, Aldrich bridge, \$390.

South Bend, Ind.—C. L. Copp, of Niles, Mich., was the successful bidder for contracts to build three new bridges and make additions to two others in various parts of the county; five presented bids and Mr. Copp's offers were from \$150 to \$700 lower than those of competitors. The largest contract is that for the Fisher bridge in Union Township, to be erected at a cost of \$643; other contracts received by Mr. Copp are as follows: Perkins bridge, Penn Township, \$491; Westover bridge, Penn Township, \$491; wing walls on Yetter bridge, Liberty Township, \$599; wing walls on Myers bridge in Liberty Township, \$655. One bid on the Yetter bridge was \$1,348.60. Other bidders for the work were the Elkhart Bridge & Iron Co., Jacob Maurer, of Wyatt, Vanskyhawk & Kitch, of Bremen, and Elmer N. Heiny, of North Liberty.

Washta, Ia.—Board of Supervisors has awarded contract for constructing steel and iron bridge over the Sloux to Stark Bridge Co., of Des Moines, for \$5,100.

Lexington, Ky.—The contract for the erection of the steel work on the proposed bridge over Boones' Creek was let to H. L. Leete; the steel is to be furnished and erected complete according to the plans submitted at a total cost of \$1,200. The masonry work for the erection of the bridge was recently awarded to Patrick Collins, a Georgetown contractor.

Lewiston, Me.—Grand Trunk Railway has contracted with Pennsylvania Steel Co. to replace all of its bridges between Lewiston Junction and Lewiston with new steel structures.—H. G. Kelley, Chief Engineer, Montreal, Que.

Groveland, Mass.—Essex County Commissioners at Salem have opened bids as follows for constructing a wooden fender pier at Groveland Bridge: Hatch Bros., of Newburyport, \$9,350, awarded contract; W. H. Ellis, of Boston, \$9,876; Holbrook, Cabot & Rollins, of Boston, \$10,800.

Grand Ledge, Mich.—Contract has been awarded to Huron Bridge & Iron Co., of Port Huron, by Council for construction of bridge, three-span, of reinforced concrete, across the Grand River at Bridge st.

Duluth, Minn.—The Interstate Dredge & Dock Co. will construct the piers for the Transfer Railway Co.'s bridge across the St. Louis River at the site of the steel plant; the contract has been awarded and the piers will be put in this winter, the superstructure being built by the American Bridge Co. in the spring.

East Grand Forks, Minn.—The Board of

County Commissioners has let contract for bridge across the Sand Hill River at Fertile to the Minneapolis Bridge & Iron Co. for \$2,475; the bridge is to be built in connection with the Kankel Mill dam, and is 75 ft. long.

Cincinnati, O.—Thomas & Zeske have been awarded contract by the County Commissioners, at \$6,513, for constructing bridges and culverts on the Forfeit Run Road.

Muskogee, Okla.—Col. H. B. Spaulding, owner of the Spaulding bridge across the Arkansas River, a few miles northwest of Muskogee, has awarded to the Midland Bridge Co. for \$9,000 a contract to build two 150-ft. spans and otherwise repair the structure that has been out of commission for several months, owing to a big rise in the river which carried away parts of the bridge.

Springfield, Ore.—L. N. Roney has secured contract for constructing bridge over Willamette River, consisting of four concrete piers and three spans; cost about \$40,000.

South Bethlehem, Pa.—The Commissioners of Lehigh and Northampton Counties have awarded contract for the erection of the new bridge to cross the Lehigh River from Slatington to Walnutport to the Penn Bridge Co. of Beaver Falls, Pa., for \$39,915; other bids were Owego Bridge Co., \$45,900; A. Buchanan Bridge Co., \$58,990; Nelson & Meredith, \$43,469; Horn & Neff, \$44,500; G. H. Clader & Co., \$43,200; W. H. Von Mengerhausen & Co., \$44,716; G. H. Hardner, \$42,600; York Bridge Co., \$41,000; M. H. Stebbins, \$42,000.

Floyd, Va.—Bids have been opened by P. St. J. Wilson, State Highway Commissioner at Richmond, for constructing steel bridge over Little River at Altizer's Ford, between Floyd and Montgomery counties, to have two spans, 100 ft. and 70 ft. respectively, and contract has been awarded to Roanoke Bridge Co., of Roanoke.

Norfolk, Va.—W. W. Gwathmey Engineering Co., city, is lowest bidder at \$3,980.80, for construction of concrete bridge on Union causeway.

Richmond, Va.—Board of Supervisors of Henrico County has awarded contract to E. J. Heaton, Richmond, for construction of proposed reinforced concrete bridge over Horse Swamp; materials ordered.—W. C. Saunders, Chairman.

Marquette, Wis.—Elkhart Bridge Co., Elkhart, Ind., has secured contract to erect Beaver Pond bridge at \$3,785.

Peterboro, Ont., Can.—Contract for the construction of reinforced concrete bridge has been let to E. & F. Conroy, city, by Council, at \$28,457.

MISCELLANEOUS

Birmingham, Ala.—City is considering construction of a "Heenan-Froude" garbage destruction plant.

Long Beach, Cal.—No bids were received for finishing the incomplete portion of combined bulkhead and sidewalk with parapet of reinforced cement concrete on Seaside blvd. from Chestnut ave. to Long Beach Harbor, a distance of 1½ miles; cost of work complete, about \$100,000.—E. P. Dewey, City Engineer.

Red Bluff, Cal.—Plans have been prepared for erection of \$8,000 county jail.

San Jose, Cal.—Chamber of Commerce is urging \$100,000 bond issue for improvement of Alum Rock Park.

Hartford, Conn.—Park Board will establish park on Zion Hill.

Hartford, Conn.—City Plan Commission will prepare plans and estimate cost of establishing "Isle of Safety" in State st.

Hartford, Conn.—Prominent citizens interested in educational problems, including Vice-President John B. Lunker of Travelers' Insurance Company and three leading physicians, have advocated before Board of Finance and advocated erection of \$2,500 school for tubercular children.

Crawford, Ga.—City has decided to erect City Hall.

Fort Wayne, Ind.—Charles Mulford Robinson, who is engaged to design plans for transformation of Ft. Wayne into "a city beautiful," is discussing with Board of Public Works proper location for new municipal market house, for which the city has a fund, raised by taxation, now amounting to \$20,000.

Indianapolis, Ind.—Board of Park Commissioners will purchase Ellenberger woods in Irvington for park purposes.

Lawrence, Kan.—City is considering need of street signs.

Newton, Kan.—Council has voted to call special election Nov. 2 for the purpose of voting on proposition that city acquire a plot of ground to be used permanently as an amusement park.

Topeka, Kan.—Citizens have voted \$17,700 bonds for construction of a garbage crematory.—C. B. Burge, City Clerk.

Baltimore, Md.—Free Public Bath Com-

mission is considering construction of bath house at Monument and Dallas sts.; cost \$35,000.

Baltimore, Md.—Building Inspector Preston has recommended establishment of municipal plant for testing materials entering into building work in Baltimore.

Holyoke, Mass.—Water Board is urging city to secure control of Ashley Pond; City Engineer J. L. Tighe has estimated cost of constructing ice houses and cutting and storing ice at \$1.60 per ton; Water Superintendent will purchase 40 lengths of 6-in. pipe.

Bovey, Minn.—Architects F. L. Young & Co., Duluth, have prepared plans for jail. **Minneapolis, Minn.**—Theodore Wirth, Superintendent of Parks, has submitted plans for park improvements to cost \$15,000.

Lawrence, Miss.—Mayor White favors establishment of public bath houses on common.

Camden, N. J.—Bids will be received Oct. 25, 8 p. m., for \$60,000 dock and wharf bonds.—G. A. Erey, Treasurer.

Jersey City, N. J.—Street and Water Board has ordered Chief Engineer Van Keuren to advertise for bids for removal of ashes and garbage; Contractor Henry Byrne's contract expires Nov. 30.

Montclair, N. J.—Committee on Ashes, Garbage and Rubbish of Montclair Civic Association has recommended to Town Council sanitary plan of disposing of town's garbage; garbage is now disposed of by putting it into the ground.

Newark, N. J.—Citizens of Third, Fourth and Fifth Wards of East Orange will wait upon Mayor William Cardwell and the Board of Shade Tree Commissioners to ask for appropriation of \$5,000 for construction of skating rink in Elmwood Park.

Newark, N. J.—Boys of "Hill" district headed by W. J. McKernan, Supervisor of Playgrounds, will urge Board of Works to erect public bath house in that part of city.

Paterson, N. J.—Park Board is considering acquisition of additional property for park purposes.

Ryder, N. D.—Council has decided to commence construction of new town hall immediately; building will cost \$2,200.

Chardon, O.—Citizens will vote on erection of \$15,000 county jail.

Cincinnati, O.—City has sold \$35,000 park improvement bonds to Queen City Savings Bank and Trust Company for \$35,265.

Cincinnati, O.—C. E. Denison & Co., Cleveland, have purchased \$100,000 city hospital bonds; bid was \$101,833.

Dayton, O.—Citizens will vote on changing of channel of Great Miami River, at an estimated cost of \$450,000.—F. J. Cellarius, City Engineer.

Eaton, O.—City is to have public park.—F. B. Bryant, Superintendent Public Schools, is interested.

Hamilton, O.—John W. Hill, Cincinnati, has been selected as Engineer to assist County Surveyor Dillon in construction of a levee along Miami River from Middletown to Trenton; distance five miles.

Guthrie, Okla.—Council has authorized election on \$30,000 bonds for purchase of street flushing machine and for fire department purposes; also on \$25,000 bonds for park purposes.

Muskogee, Okla.—Commercial Club is urging \$25,000 bond issue for park purposes.

Harrisburg, Pa.—Harrisburg School Board is now considering plan for establishing playgrounds in the yards of more important public school buildings for use during summer vacation months.

Harrison, Pa.—Town has awarded \$20,000 improvement bonds to E. S. Wheeler, at \$105.193.

Pittsburg, Pa.—Controller E. S. Morrow will sell bonds for improvements as follows: Raising grade of Sandusky st., north side, \$36,000; raising 9th st., north side, \$15,000; construction of Meadow st. bridge, \$65,000; for water improvement on the south side, \$350,000, and \$384,000 for extension of filtration plant to supply the north side.

Pittsburg, Pa.—Select Council has passed bill to purchase five motor cycles for policemen.

Williamsport, Pa.—City is considering installation of combination police patrol and fire alarm system; Dean Electric Co.'s system, Elyria, O., is favored.

Lead, S. D.—Architects Barlett, Magnusen and others have estimated cost of erection of proposed city hall at about \$35,000.

Baumont, Tex.—Citizens are considering establishment of public park.

Fort Worth, Tex.—Until city establishes street signs all over Fort Worth, Postmaster L. M. Barkley will refuse to ask for any more city carriers.

Fort Worth, Tex.—Beauty spot in every ward in the city is in contemplation by the Park Boards.

San Antonio, Tex.—City will soon call for competitive plans for erection of stadium.

Norfolk, Va.—Petition will be presented at November meeting of Council for permits to bring into city proposed tunnel

under Elizabeth River from Pinners Point, present terminus of several railway systems entering this port on opposite side of the river.

St. Albans, Vt.—St. Albans Clinical Society has voted to petition Council to have garbage removed from houses every day or every other day.—Dr. E. J. Melville is interested.

Bellingham, Wash.—Plans for remodeling the city hall have been submitted to the Council by City Engineer Troutman; cost about \$8,000.

Seattle, Wash.—Citizens will vote next March on four garbage propositions; one will be that of Councilman Eugene Way for a bond issue of \$400,000 for a municipal system and two plans will be submitted for this, one to be paid for by general taxation and the other to exact payment from the persons for whom refuse is moved; next general proposition will be as to the advisability of entering into a contract with a firm or corporation for the collection and destruction, with the alternatives as to how payment for the service shall be made.

Green Bay, Wis.—West Side Advancement Association is urging establishment of park system.

Menomonee, Wis.—County and Public Property Committees of County Board of Supervisors of Dunn County received no bids for improvements and construction work at county jail.—Alvan E. Small, Ellsworth Blk., Madison, Architect.

Milwaukee, Wis.—Board of Fire Underwriters will purchase motor insurance patrol truck before January 1.—F. J. Meyer, President.

Racine, Wis.—Council will at once take up matter of installation of garbage disposal plant.

Sheridan, Wyo.—Plans are now being prepared for erection of \$40,000 city hall.

Ottawa, Ont., Can.—Government will place on the order paper for consideration at coming session bill entitled act respecting harbor of Montreal, authorizing a loan of \$1,500,000 a year for twelve years to Commission; plans include more piers, new elevator, dry dock and extensive improvements of eastern end of harbor.

Toronto, Ont., Can.—Board of Control has received report of the special committee on Ashbridge's Bay improvement; total cost of the proposed improvement will amount to \$2,800,000.

BIDS RECEIVED AND CONTRACTS AWARDED

Tuscaloosa, Ala.—The Board of County Commissioners and the Board of Public Works have awarded contract for the erection of the new jail to F. M. Dodson & Co., of Montgomery. Among those bidding were Carson & Tetherow, Birmingham; B. C. Bynum Construction Co., Birmingham; Pauly Jail Building Co., St. Louis, and the Blue Ridge Construction Co., Asheville, N. C. The building is to cost \$30,000.

Douglas, Ariz.—Bid to erect Poor Farm Buildings at Douglas has been awarded to N. P. Oleson & Co., Bisbee, at \$30,000.—H. E. Berner, Clerk Board of Supervisors, Tombstone, Ariz.

Waterbury, Conn.—The contract for the construction of the garage for the new auto patrol wagon was awarded by the Board of Safety to Edward Bergin & Sons for \$950.

Jacksonville, Fla.—Board of Public Works opened bids for the construction of approximately 277 ft. of reinforced concrete wall on Eleventh st., and the report of the Engineer favored the bid of Edward B. Garretson & Co., to which firm the Board awarded the contract. The bids were as follows: T. D. Griffin & Co., \$523.95, with the understanding that the excavations necessary to bring the ground to the required level would be extra, and offering to do this also for an additional amount of \$25. William B. Garretson & Co., \$497. William Peterson, \$11.40 per cu. yd; excavation necessary at 25c. per sq. yd. Fred Ogram, \$506.90. F. J. Trout, \$2.10 per running ft. Jacksonville Concrete Co., \$503.76.

Des Moines, Ia.—Contracts for river improvement have been awarded as follows, bids opened Sept. 29: Concrete wall and levee to Cook Construction Co., of Des Moines, for \$11,570, and stone rip rap, piling, willow revetment and levee to the Turner Improvement Co., of Des Moines, for \$62,382.

Springfield, Mass.—The Springfield Sanitary Drinking Fountain Co. has been awarded contract for nearly 100 sanitary drinking fountains as a preliminary order, there being 58 sets of four each, or 232 fountains required for school buildings.

Jersey City, N. J.—Holmes & Cogan, 96 Garfield ave., Jersey City, have contract for laying about one mile of 8-in. submerged c. l. pipe from Jersey City to Ellis Island, New York Harbor, for the Bureau of Immigration; estimated cost, \$18,000.

Morristown, N. J.—A motorcycle has been ordered purchased for use of County Detective Edward L. Brennan by Board of Freeholders.

Albany, N. Y.—Hermon A. MacNeil, Cottage Point, L. I., N. Y., has been awarded contract for constructing Soldiers' and Sailors Memorial in Washington Park by Board of Contract and Supply, at \$90,000.

Lockport, N. Y.—Michael Owens and Michael Sharkey were awarded the garbage collection contract for a term of three years dating from Nov. 1 of this year by Council; their bid was \$11,268 for the three year period. Gottlieb Kohler, who had the contract for several years, was not a bidder. The other figures submitted were as follows: Michael Humphrey, \$12,600; Alfred

Morgan, \$11,973; E. W. Tillotson, \$11,940. Each bidder also submitted figures on the contract for one year.

New York, N. Y.—Bids were received as follows by John J. Barry, Commissioner of Correction, October 7, for furnishing all the labor and materials required for construction and completion of a single screw steamer: James Shewan & Son, foot Houston st., East River, \$28,489, awarded contract; Waters-Gildersleeve-Colver Co., 45 Broadway, \$28,865; J. W. Sullivan & Co., 872 East 9th st., \$29,200; Jas. Tregarthen & Sons, foot Seventh st., \$29,450; John F. Walsh, Jr., & Co., 136 Charlton ave., \$35,000.

Savannah, N. Y.—Contracts for Town Hall were let to Messrs. Vought & Secor, of village, for the carpenter work, and

Henry Shearer, of Lyons, for the mason work.

Oklahoma City, Okla.—Council has purchased a Velle automobile for the Engineering Department at \$1,873; a Studebaker car was offered by the Lee Motor Car Co. at \$1,470.

Bethlehem, Pa.—The bid of Louis Reis having been the lower of two received, the contract for furnishing patrolmen's overcoats was awarded to him for \$22 per coat.

Brigham City, Utah.—The County Commissioners have let contract for grading and for cutting a channel under the new bridge west of Fielding to F. E. King at 25c. per yd.

Madison, Wis.—Fritz Bros. were awarded the contract for the new market building at a cost of \$13,449.

TOO LATE FOR CLASSIFICATION

STREET IMPROVEMENTS

San Jose, Cal.—Bids will be received Nov. 1 for improvement of 12 miles of highways; cost \$5,500 mile; plans by County Surveyor McMillan.

Jackson, Cal.—Town Trustees will soon purchase rock crusher; gasoline engine already bought.

North Pasadena, Cal.—Petitions are being circulated for improvement of El Molino ave.

San Jose, Cal.—Board of Supervisors has decided to improve six miles of Monterey road.

Orange, Conn.—Town will ask for \$20,000 for improvement of State highways.—E. C. Russell is interested.

New Castle, Ind.—Council has adopted resolutions to pave East Broad st.; bids will be advertised for so that work can begin early next spring.

New Orleans, La.—Budget Committee has appropriated \$10,000 for construction of footwalks in neutral ground of Orleans st.

Tavares, Fla.—Construction of five miles of clay and sand road is being considered; —H. H. Duncan, Lake County Commissioner.

Sanford, Fla.—Citizens have voted \$80,000 bonds for paving streets and for bridges.

Columbus, Ga.—City has decided to pave 13th st. from 1st to 6th ave.

Douglas, Ga.—Coffee County is considering construction of 50 miles of clay and sand roads.—Dan Latt, Chairman Board of County Commissioners.

Jackson, Ga.—Commissioners of Roads and Revenues will call election on \$20,000 bonds for good roads.

Cumberland, Md.—Council has passed ordinance for paving of Cumberland st.

Omaha, Neb.—Village of Dundee will pave 37 city blocks between Cuning and Dodge sts. next summer.

Atlantic City, N. J.—City has awarded \$205,000 paving bonds to Kountze Bros., of New York, at \$103.63.

Camden, N. J.—Council has ordered repaving of Cherry st. with sheet asphalt, ordinance providing for paving and repairing of sidewalks on Market and Federal sts., Broadway and Kaigh ave.—S. V. Bradlev, Clerk.

Hackensack, N. J.—Board Freeholders has passed resolution providing for the construction of roads in Bergen County; cost about \$700,000.

Jersey City, N. J.—Bids will be received Oct. 27, 4 p. m., for improvement of three streets.—J. H. Londrigan, City Clerk.

Palisades Park, N. J.—Council has rejected all bids for crushed stone for improvement of Broad ave.

Dickinson, N. D.—Commissioners of Stark County have authorized bond issue of \$60,000 with which to take up all outstanding indebtedness and with which to construct new roads and repair old ones in various parts of county.

Blackwell, Okla.—Council has ordered election on \$2,500 street improvement bonds.

Charleston, S. C.—Bids will be received Nov. 2, noon, for building road.—A. A. Kroeg, Secretary, Board of Park Commissioners.

Aberdeen, S. D.—Committee on Public Service, Alderman Davis, Chairman, will investigate new form of paving used in Fond du Lac.

Carthage, Tenn.—Smith County will vote Feb. 26 on \$100,000 bonds for road and street improvements.

Fort Worth, Tex.—Citizens have voted \$135,000 bonds for street improvements.

Galveston, Tex.—Citizens have voted \$500,000 bonds for good roads.

Spotsylvania Courthouse, Va.—Chancellor and Courtland Districts will vote Nov. 2 on \$60,000 bonds for good roads.

BIDS RECEIVED

Quincy, Ill.—Board of Local Improvements has awarded contracts for paving Tenth st. with brick paving block to Henry Rees at \$19,910.—J. A. Steinbach, Chairman.

Meridian, Miss.—The Mayor and Boards of Councilmen and Aldermen, Oct. 13, awarded contracts for paving the residence streets, the total amount of which approximately is \$275,045.07; four different kinds of material were selected, wood block, brick, granitoid and bitulithic. The wood block and brick contract was awarded to the Rubush-Dabbs Construction Co., of Meridian, for \$64,630.10. The granitoid contract was awarded to the Rudolph S. Blome Granitoid Co., of Chicago, for \$11,424.35. The bitulithic contract was awarded to the Southern Bitulithic Co., of Nashville, for \$198,990.71. The tabulated bids, compiled by City Engineer Whetmore, show the following totals: West Construction Co., brick, \$261,877.50; asphalt, \$255,401.50; wood block, \$286,407.50; H. P. Striecher & Co., asphalt, \$254,620; Graves-Mathews Co., brick, \$269,729; Byron-Souders Co., brick, \$249,706.50; wood block, \$286,666.50; J. Whitlurley & Co., wood block, \$295,305; Rubush-Dabbs Construction Co., brick, \$262,120.50; asphalt, \$270,107.50; wood block, \$278,920.50; granitoid, \$238,880.50; macadam, \$149,920.50; Southern Bitulithic Co., asphalt, \$249,920.50; wood block, \$322,448.50; bitulithic, \$271,392.50; Southern Paving and Construction Co., brick, \$264,784; wood block, \$308,464; Filbert Paving and Construction Co., asphalt, \$242,774; wood block, \$304,514; R. S. Blome, granitoid, \$242,672.

Buffalo, N. Y.—Bids for repaving Seneca st., from Babcock st. to the Buffalo River bridge, were opened Oct. 16 by Department of Public Works. The lowest bidder is the German Rock Asphalt & Cement Co., \$25,415. For repaving Best st. the lowest bidder is the H. P. Burgard Co., \$18,500. The Barber Asphalt Paving Co. bid low for repaving Trenton ave., from Court st. to Georgia st., \$5,070. For repaving Pine st., from Cypress to Sycamore, the lowest bidder is the Barber Asphalt Paving Co., \$3,340.

Salt Lake City, Utah.—P. J. Moran was low bidder for paving extension No. 31 at \$54,248.50. The principal item is asphalt paving at \$2.55 per sq. yd.

SEWERAGE

Bettendorf, Ia.—Bids will be received Oct. 25, 3 p. m., for construction of sewer system; work includes following approximate quantities: 4,450 ft. of 15-in. pipe sewers; 3,060 ft. of 12-in. pipe sewers; 740 ft. of 10-in. pipe sewers; 4,690 ft. of 8-in. pipe sewers; 600 ft. of 18-in. pipe sewer outlet; 1 septic tank; 28 manholes; 5 flushtanks, and 4,020 cu. yds. rock excavation.—F. W. Linder, Town Clerk; Chas. P. Chase, Clinton, Engineer.

Bangor, Me.—Survey and plan will be made for trunk sewer along Broad st. with outlet in Penobscot River or at mouth of stream.—P. H. Coombs, City Engineer.

Hastings, Neb.—Bids will be received Oct. 25, 7 p. m., for sewer construction work in District No. 46.—C. E. Heartwell, Street Commissioner.

Batavia, N. Y.—Board of Aldermen will award \$375,000 sewer bonds to A. B. Leach & Co., of New York, at \$100.21.

South Orange, N. J.—Hilton citizens are considering installation of sewer system.—W. H. Kemp, Chairman Sewer Committee, South Orange Township Board.

Fargo, N. D.—Plans have been accepted and bids will be advertised for proposed trunk sewer; cost \$66,000.

Fort Worth, Tex.—Citizens have voted \$150,000 bonds for extensions to sewer system.

Bridgeburg, Ont., Can.—Citizens have voted to issue \$30,000 debentures for construction of sewers, disposal plant and acquiring site for public park.

WATER SUPPLY

Selma, Ala.—Selma Water Works Commission is in market for one upright boiler feed water heater, 200 to 250 hp., 9-in. exhaust, top connection preferred, new or second-hand.—J. W. Jones, Manager.

Atlanta, Ga.—Latest plan for improving the water works system, and which will come before Water Board on a recommendation from General Manager Park Woodward, is to utilize old water works at Lakewood for fire and sewer flushing; this use of old water works plant would not cost the city more than \$100,000.

Nickerson, Kan.—Citizens will again vote, Nov. 2, on \$35,000 bonds for establishment of municipal water works and light plant.

Amite City, La.—Council is considering installation of water works; cost \$25,000.

Baton Rouge, La.—Local water company will expend about \$50,000 on improvements.—J. H. Wood, Manager.

Albemarle, N. C.—City has selected J. M. Bandy, Greensboro, N. C., as Designing and Consulting Engineer for installation of proposed water and sewer systems and lighting.

Hagerman, N. M.—Town has sold \$25,000 water bonds to John Nuveen & Co., of Chicago, for \$1,000 bonus.

Bradford, O.—City will purchase 250 tons of c. i. pipe.

Lorain, O.—Schott Construction Co. has accepted water works franchise and has already ordered survey of levels and distances from Town Hall to lake.

Blackwell, Okla.—Council has ordered election on \$12,500 bonds for purification and filtration system.

Portland, Ore.—City Water Board has ordered construction of a 12-in. water main to connect high pressure reservoir on Mt. Tabor to the 4-in. wooden mains of the Woodmere Water Co. at the Powell Valley road; estimated cost \$6,850.—D. D. Clarke, Engineer.

Newberry, S. C.—Citizens will vote Nov. 2 on \$5,000 water extension bonds.—J. J. Langford, Mayor.

Anson, Tex.—Jones County has voted bonds for construction of water works.

Dallas, Tex.—William B. Parsons, of New York City, has been retained by city as Consulting Engineer in connection with plans for building 5,000,000,000-gal. water reservoir on White Rock Creek.

Fort Worth, Tex.—Citizens have voted \$275,000 bonds for extension of water system.

Port Arthur, Tex.—Port Arthur Water Co. has decided to extend fire mains distance of 13 blocks and place six additional fire plugs.

North Yakima, Wash.—City water delivered through mains under pressure is planned for many ranches on Nob Hill, through further extensions of Nob Hill Water Users' Association; another mile of mains in the rural district will be placed.

Renton, Wash.—Council has decided to call election on \$12,000 bonds for completion of water system.

Rowlesburg, W. Va.—Town will establish complete water system; cost \$25,000.—Col. C. C. Pierce is interested.

LIGHTING AND POWER

Anniston, Ala.—City has granted Coosa River Power and Development Company franchise to do business.

De Queen, Ark.—De Queen Light & Ice Co. has been incorporated by C. W. Dawley, P. G. Whaley and Paul Coleman; capital \$50,000.

Meridian, Cal.—Pacific Gas and Electric Company has four surveyors in Meridian making surveys along proposed route of the Northern Electric Railroad for new electric power line to be built from Marysville to Meridian; E. P. Henley, Manager of Land Department of Pacific Gas and Electric Company, is making arrangements for construction of line.